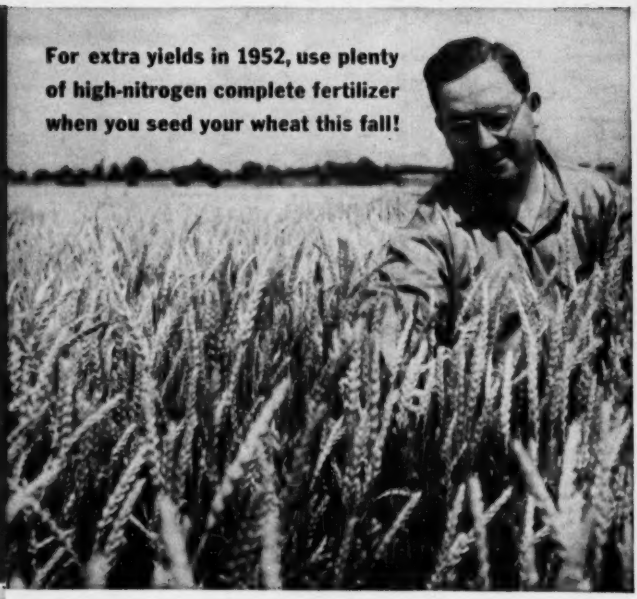
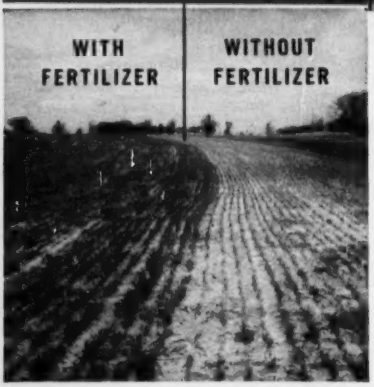
COMMERCIAL FERTILIZER

CONSOLIDATED WITH THE FERTILIZER GREEN BOOK

Fertilizer Makes Wheat Get Up and *Grow!*





THESE ILLUSTRATIONS AND HEADLINE are from Barrett advertisements in Midwestern farm magazines, urging farmers to use plenty of well-balanced complete fertilizer when wheat is seeded in the fall.

A bigger tonnage of fertilizer, sold and delivered in the fall, means a bigger total tonnage supplied to farms during the 1951-52 fertilizer year.

Barrett advertising is designed to assist in extending the movement of complete fertilizer over a longer period —thus enabling the fertilizer industry to manufacture and deliver a bigger tonnage.

THE BARRETT DIVISION
ALLIED CHEMICAL & DYE CORPORATION

Barrett NITROGEN*

New York 6, N. Y. • Richmond 19, Va. • South Point, Ohio • Hopewell, Va. • Atlanta 3, Ga. • Columbia 1, S. C. • San Francisco 3, Cal.

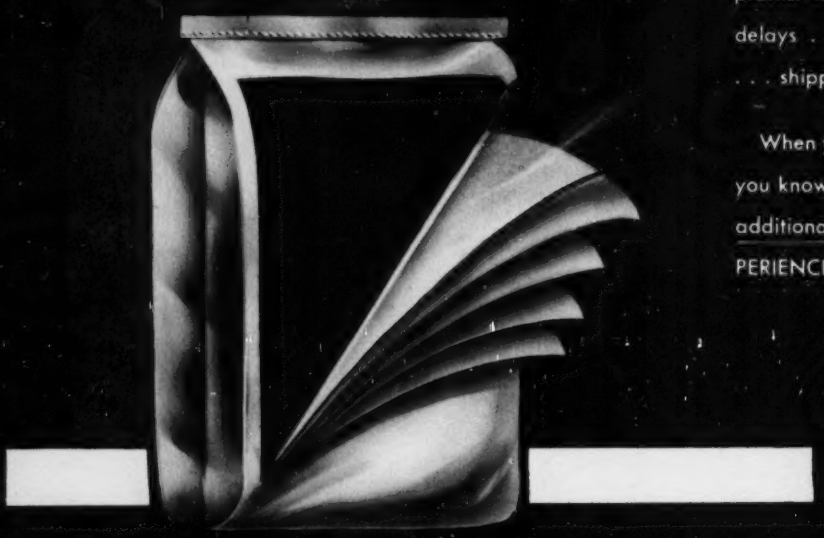
THE ELEMENT THAT MAKES PLANTS GROW!

*Reg. U. S. Pat. Off.

the invisible wall

There's an extra wall in CPC Multiwall bags. You don't see it . . . but you realize it's there; shielding your product, your company, and your profits. It's added protection from delays . . . dissatisfied customers . . . shipping losses.

When you ship in CPC Multiwalls, you know you are protected by the additional wall of INTEGRITY, EXPERIENCE, QUALITY and SERVICE.



CHEMICAL PACKAGING CORP., Savannah, Georgia

LION provides one-stop nitrogen service to Southern fertilizer manufacturers

Lion Anhydrous Ammonia — Manufactured in Lion's modern plant to an 82.25% nitrogen content under accurate chemical control, the uniformity and high quality of this basic product are assured.

Lion Aqua Ammonia — This product is available to manufacturers for use in the formulation of mixed fertilizers or for sale as direct application material. Normally about 30% ammonia, its content can be controlled by order to suit your needs.

Lion Nitrogen Fertilizer Solutions — Made specifically for the manufacturing of mixed fertilizers, these products supply both ammonia nitrogen and nitrate nitrogen in the ratios desired. They are easily handled and available in three types designed for varying weather conditions, and for formula requirements in the production of fertilizers that cure rapidly, store well and drill evenly.

Lion Ammonium Nitrate Fertilizer — The improved spherical white pellets in this product contain a guaranteed minimum of 33.5% nitrogen. They flow freely, resist caking and store much better. Lion Ammonium Nitrate Fertilizer is shipped in 100-pound, 6-ply bags with two moisture-proof asphalt layers.

Lion Sulphate of Ammonia — This new, superior-type sulphate is guaranteed to contain a minimum of 21% nitrogen. Through special conditioning of the larger crystals, moisture and free acid content is greatly reduced. These factors, together with the special coating applied, make for greater resistance to caking in shipment or in storage. This product flows freely. It is shipped in bulk and in 100-pound, 6-ply bags laminated with asphalt.

"Serving Southern States"

Technical advice and assistance to fertilizer manufacturers in solving their manufacturing problems is available for the asking . . . just write.

LION OIL COMPANY

Chemical Division • El Dorado, Arkansas

POTASH
TRONA
SALTS

Trona
Muriate of Potash

This vitally important ingredient of mixed fertilizer provides the soil nutrient necessary to resist plant diseases and to enhance the productivity of crops. To obtain the best results, specify "Trona" Muriate of Potash . . . made by the pioneer producers in America.

Three Elephant
Agricultural Pentahydrate
Borax

Contains a minimum of 44% B_2O_3 or approximately 121% equivalent Borax. More economical in this concentrated form when used as an addition to fertilizer or for direct application to the soil, to correct a deficiency of Boron. Consult your local County Agent or State Experimental Station.

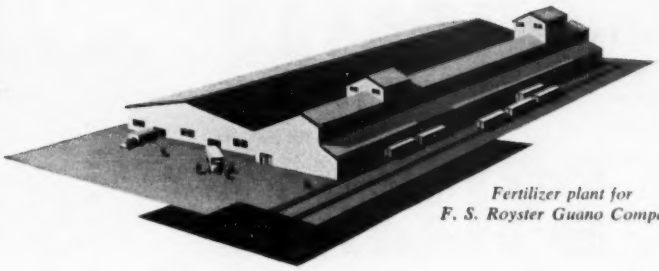
AMERICAN POTASH & CHEMICAL CORPORATION

122 EAST 42nd STREET • • • • NEW YORK 17, N. Y.

231 S. LA SALLE STREET
CHICAGO 4, ILLINOIS

214 WALTON BUILDING
ATLANTA 3, GEORGIA

3030 WEST SIXTH STREET
LOS ANGELES 54, CALIF.



Fertilizer plant for
F. S. Royster Guano Company

You Get Modern Flexible Design At Low Cost With McCloskey Buildings

Your operations may call for a building of eccentric design or a simple structure—both can be built to suit your requirements with economy by McCloskey. All stresses and loads are carefully calculated to give you a substantial permanent building, tailor-made for you in any width—any length.

Complete construction service is furnished by McCloskey. Our engineers give you the benefit of their long experience in building industrial plants. They supervise construction from start to finish. Your staff can continue its regular duties without devoting productive time to your building project.

You will be pleased like many of the largest companies around the world with your McCloskey Buildings. They have found that the complete construction services save them time and money. The modern flexible design also saves on initial investment and future maintenance.

Call on McCloskey before you plan your new building or plant. Learn how you can get the best buildings and at the same time save money. Write McCloskey Company of Pittsburgh, 3412 Liberty Avenue, Pittsburgh 1, Pa.

McCloskey Company
of Pittsburgh

COMMERCIAL FERTILIZER

ESTABLISHED 1910

August, 1951

Vol. 83, No. 2

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FOUR FAMOUS PHILLIPS FERTILIZERS!

1 AMMONIUM SULFATE

Phillips *66* Ammonium Sulfate is a free-flowing 21% nitrogen material! Mixes easily! Uniform crystals resist caking! Ideal for high analysis mixed goods! A fine direct application material, too!

2 AMMONIUM NITRATE

Phillips *66* Prilled Ammonium Nitrate contains 33% nitrogen. The small, coated prills or pellets resist caking . . . handle easily. Depend on Phillips *66* Prilled Ammonium Nitrate for uniform, free-flowing properties and top-notch crop response.

3 NITROGEN SOLUTIONS

Get more N per dollar! Phillips *66* Nitrogen Solutions are well suited to the preparation of high-analysis fertilizers and the ammoniation of superphosphate. These three nitrogen solutions keep handling costs low! Promote rapid, thorough curing!

4 ANHYDROUS AMMONIA

Tank car shipments of Anhydrous Ammonia (82% nitrogen) are supplied to Phillips contract customers from Phillips huge production facilities in the Texas Panhandle. Write our nearest district office for full information.

PHILLIPS CHEMICAL COMPANY

A Subsidiary of Phillips Petroleum Company

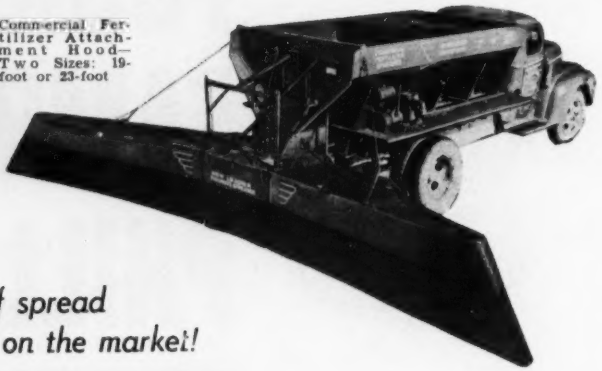
FERTILIZER SALES DIVISION • BARTLESVILLE, OKLAHOMA

DISTRICT SALES OFFICES:

NORFOLK—610 Royster Bldg. • TAMPA—7 Terrace Office Bldg., 404 Marion St. • HOUSTON—604 City National Bank Bldg.
OMAHA—WOW Bldg. • AMARILLO—First National Bank Bldg. • LOS ANGELES—4521 Produce Plaza West • BARTLESVILLE—Adams Building

Here's the answer to your Spreading Problems!

AGAIN! "The NEW LEADER" leads the field



Commercial Fertilizer Attachment Hood—Two Sizes: 19-foot or 23-foot

with its new "Motor-Driven Spreader" offering greater accuracy of spread with the most positive feed on the market!

SPECIAL ADVANTAGES— Uniformity of spread is not dependent on truck speed. Motor is mounted on catwalk and drives only the twin distributor discs at a constant speed, assuring full width of spread at all times together with uniform distribution.

Conveyor is separately driven from truck drive shaft by a series of V-belts to deliver the correct amount per acre—regardless of truck speed or regardless of whether the truck is driven in low, super-low or any other gear.

Conveyor speed is, therefore, positively synchronized with speed of the rear wheels of truck and at each revolution of the rear wheels, the conveyor moves a given distance regardless of the truck's speed. Amount of material delivered by conveyor does not vary with hilly or soft field conditions.

Spreader Body Lengths (inside measure) are 9', 11', 13' and 15'. Other body lengths on special order.

Note: When Spreading Attachment is folded up for road-traveling position, width is approximately 7'-5"

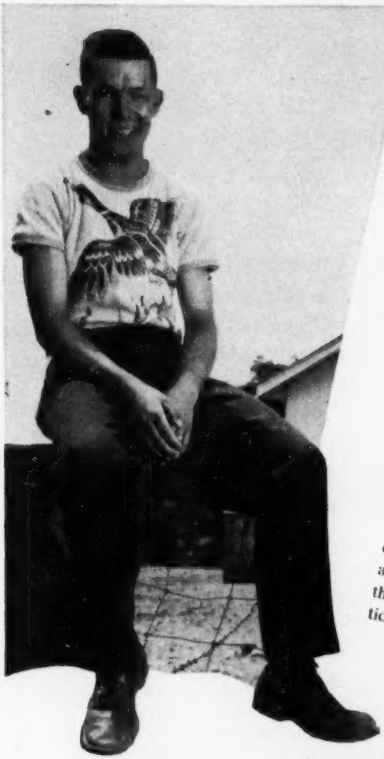
"The NEW LEADER" Self-Unloading Bulk Transport

The 20-ton capacity transport above is shown with elevator in place and ready to load a NEW LEADER Spreader truck. These units are proving very profitable; in bad weather they eliminate demurrage on railroad cars; fertilizer gets to the job quickly and spreader trucks can be kept working in the field. The transport, being a self-unloading unit, leaves the tractor truck free to return to pick up another transport load. These units have four individual compartments of 5 tons each. Each compartment may be unloaded independently of the others. Compartments and rear endgate are removable so that bagged and packaged goods may be hauled instead of bulk loads. Capacity 5 tons to 25 tons, lengths from 11 ft. to 40 ft. Written warranty with all NEW LEADER equipment. Write today for specifications, prices, etc. Fast delivery service sells fertilizer!

FREE! Write for "The Story of a Custom Fertilizer Spreading Service".

HIGHWAY EQUIPMENT COMPANY, INC. CEDAR RAPIDS, IOWA

MANUFACTURERS OF THE WORLD'S MOST COMPLETE LINE OF SPREADERS



250 pounds of Ammonium Sulphate increase corn yield 11 bushels an acre

JOHN M. COOPER OF SLIPPERY ROCK, PA., a vocational agriculture student, tested the direct application of Ammonium Sulphate on his 1950 corn crop and was more than pleased with the results.

"On one acre," he says, "I broadcast and plowed down 250 pounds of Ammonium Sulphate. This gave a yield of 85 bushels per acre. The remainder of the field had no preplanting fertilizer application and the yield was 74 bushels per acre."

USS AMMONIUM SULPHATE UNITED STATES STEEL

Bigger yields for farmers ... better business for you

● U·S·S Ammonium Sulphate, in high-analysis mixed fertilizers or applied directly to the soil as in the case cited here, steps up both yields and profits for farmers who use it.

Farmers everywhere, young and old, are enthusiastic over the results obtained by using U·S·S Ammonium Sulphate on their crops. So be ready to get your share of this business by including U·S·S Ammonium Sulphate in your line . . . both in 100-pound bags for direct application and in your high-analysis complete fertilizers.

Dry, free-running U·S·S Ammonium Sulphate stands up well in storage . . . doesn't corrode drills or other distributing equipment.

Heavy demand is taxing supplies of U·S·S Ammonium Sulphate this season, so anticipate your needs well in advance. United States Steel Company, 525 William Penn Place, Pittsburgh 30, Pa.

USS

U·S·S AMMONIUM SULPHATE

UNITED STATES STEEL

JUST AROUND THE CORNER

By Vernon Mount

A LOCAL-LEVEL GROUND-SWELL seems to be rising in this fair land of ours. By that I mean that I have encountered scattered, but very definite, evidences that people are trying to strengthen their local organizations.

FEDERAL INVASION is one reason. When an elevator man is subject to inter-state law because someone on one of his floors deals in inter-state commerce ...it's time.

CHAMBERS OF COMMERCE are the usual centers of this type organization, because they cut across all interests in the community. But lunch clubs are helpful, and in some places really supply the common meeting ground that is needed.

ENCOURAGE THIS MOVEMENT in your own community. If your Chamber or service club is not taking an interest in it, perhaps you can stir things up. Certainly in a Nation founded on States Rights, and one that has fought for the principle bitterly through the years, it is time that strength at the grass roots was assured.

Yours faithfully,

Vernon Mount

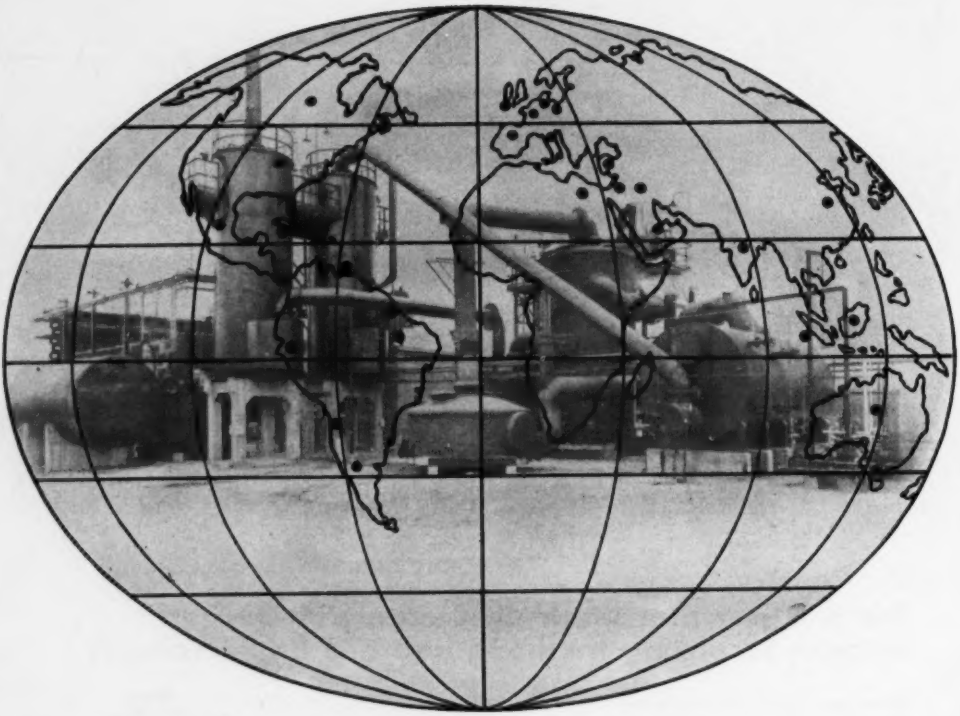
There is just that much difference between modern fertilizing methods and old time methods

Going back to the old horse and buggy after driving a modern automobile would be just as difficult as going back to old time fertilizing methods. Today's commercial fertilizers, packed in Raymond Shipping Sacks, are that far advanced from old time fertilizers. They are so easy to handle, save time, inconvenience, and eliminate guesswork.

Producers, packers, and shippers of fertilizer specify Raymond Multi-Wall Paper Shipping Sacks for their packing and shipping needs. Sift-proof, dust-proof, and water-resistant, Raymond Shipping Sacks are tough, strong, and dependable. They are available printed or plain, pasted or sewn, with valve or open mouth. They are CUSTOM BUILT to individual requirements.

THE RAYMOND BAG COMPANY
Middletown, Ohio

RAYMOND MULTI-WALL PAPER SHIPPING SACKS



ALL OVER THE WORLD!

More than 250 Monsanto-designed sulfuric acid plants are located in twenty-six countries throughout the world. Using Monsanto Vanadium Catalyst, these units produce about 40% of the free world's contact sulfuric acid. Monsanto plants are not limited to elemental sulfur. They are working with all known raw materials.

Monsanto's standard designs for sulfuric acid plants offer these advantages:

1. CAPACITY to meet your needs . . . ranging from five to five hundred tons of acid (100% H_2SO_4 basis) daily, with no equipment in parallel.

2. FLEXIBILITY in operation from 30% of capacity to more than rated capacity without "blanking off" or other operations that consume time and labor.

3. EFFICIENCY and ECONOMY. Monsanto-designed plants deliver top efficiency with low costs of operation and maintenance. They produce by-product steam that means further savings.

If you are interested in producing sulfuric acid or in stepping up your present output of this most important heavy chemical, you can have the benefit of Monsanto's thirty years' experience in the design and operation of sulfuric acid plants.

At your request . . . and without cost or obligation to you or your company . . . a Monsanto engineer will bring you full details. Write, wire or telephone MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, 1700 South Second Street, St. Louis 4, Missouri.

MONSANTO VANADIUM CATALYST

Monsanto Vanadium Catalyst, produced solely for use in the manufacture of sulfuric acid by the contact method, is highly efficient, rugged, long-lasting. It is used in Monsanto-designed plants in these countries:

UNITED STATES	PERU	PALESTINE
CANADA	UNITED KINGDOM	IRAQ
MEXICO	HOLLAND	IRAN
CUBA	FRANCE	INDIA
TRINIDAD	SPAIN	SUMATRA
CURACAO, N.W.I.	ITALY	BORNEO
ARGENTINA	TURKEY	AUSTRALIA
BRAZIL	EGYPT	CHINA
CHILE		JAPAN

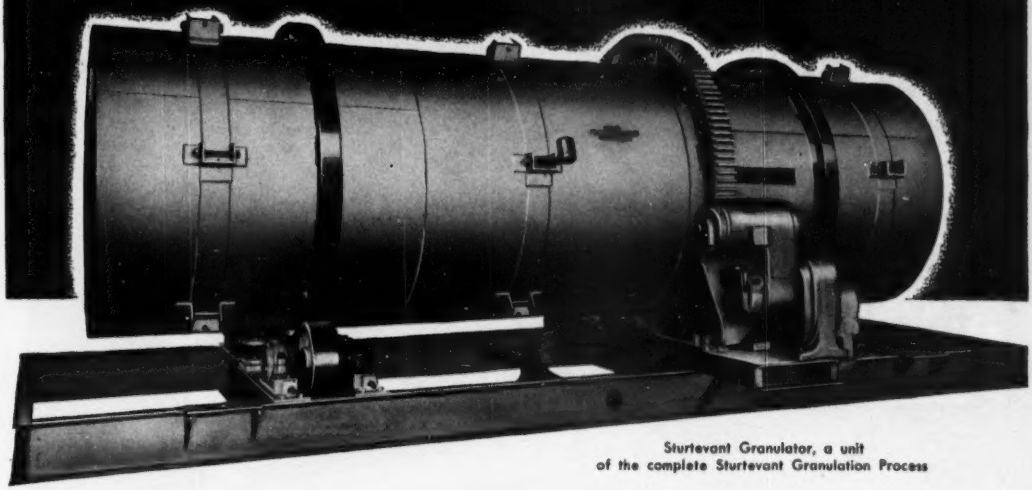
MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND

A New Solution to Fertilizer Preparation . . .

with the New

Sturtevant Granulation Process



Sturtevant Granulator, a unit
of the complete Sturtevant Granulation Process

★ ***Granular fertilizer can be stored over longer periods of time***

★ ***Holds chemical properties without deterioration***

It's here . . . the new Sturtevant Granulation Process for manufacturing granular or pelletized fertilizer. This outstanding method prepares fertilizer granules of uniform size. Its unique design and rugged construction assure long operating life with little if any maintenance.

It will pay you to investigate this new method of fertilizer preparation and Sturtevant Equipment.

Advantages of granular fertilizer include . . . Granular fertilizer can be stored over long periods without caking, a typical fault of ordinary fertilizer. It means that this type of fertilizer can be bought at any time and used when necessary. Being in hard granular form, it holds its chemical properties without deterioration. In addition, evidence shows that granular fertilizer increases the fertility of the land because plant foods do not wash down below the roots as quickly. It reduces waste . . . saves on labor time of distribution . . . is especially effective for use when airplanes are used for distributing fertilizer.

STURTEVANT MILL COMPANY
111 CLAYTON STREET, BOSTON 24, MASSACHUSETTS

Designers and Manufacturers of:
CRUSHERS • GRINDERS • SEPARATORS • CONVEYORS
MECHANICAL DENS and EXCAVATORS • ELEVATORS • MIXERS

Clip coupon below for complete information on this new Sturtevant Process of fertilizer preparation.

Mail this Coupon Today

Sturtevant Mill Company
111 Clayton Street, Boston 24, Mass.

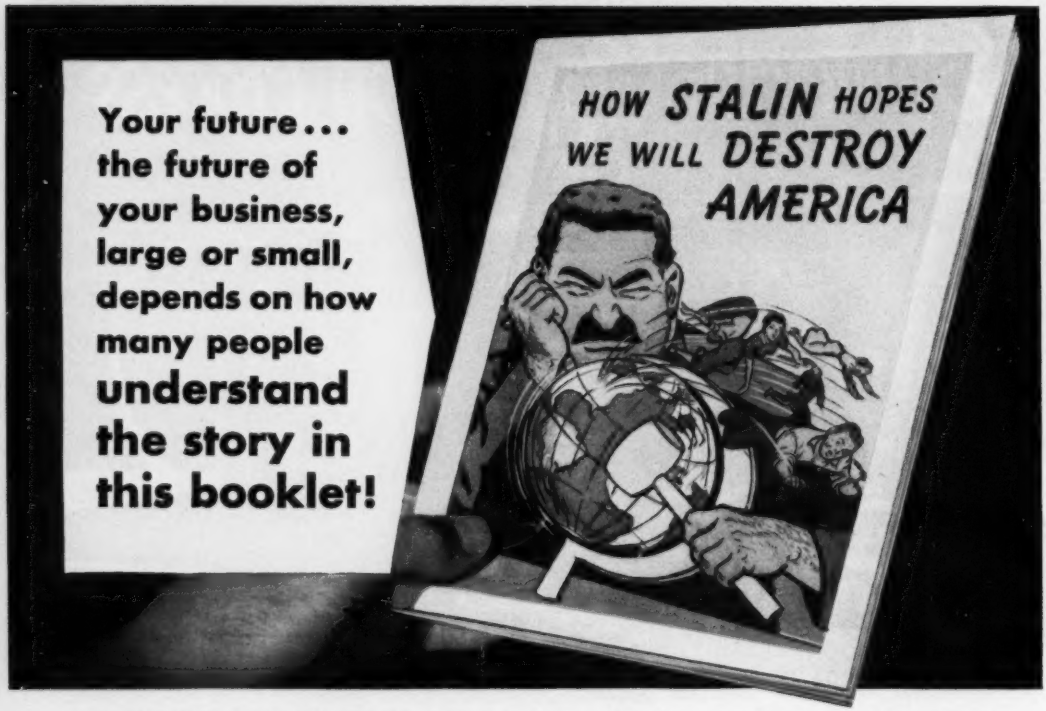
Gentlemen:
Please send me further information about the Sturtevant Granulation Process.

Name _____

Address _____

City and State _____

There IS something YOU can do ABOUT INFLATION!


Your future... the future of your business, large or small, depends on how many people understand the story in this booklet!
HOW STALIN HOPES WE WILL DESTROY AMERICA

Businessmen recognize **inflation** *as the nation's greatest single threat. But most of us have felt "What can one man—even one business—do to stop it?"*
But there is a way—if enough of us work at it. We can help more people . . . the men and women who work and vote and pay taxes . . . to understand the nature of inflation, its **causes** *and* **cures.** *Then we will have gone a long way toward eliminating this pending catastrophe.*

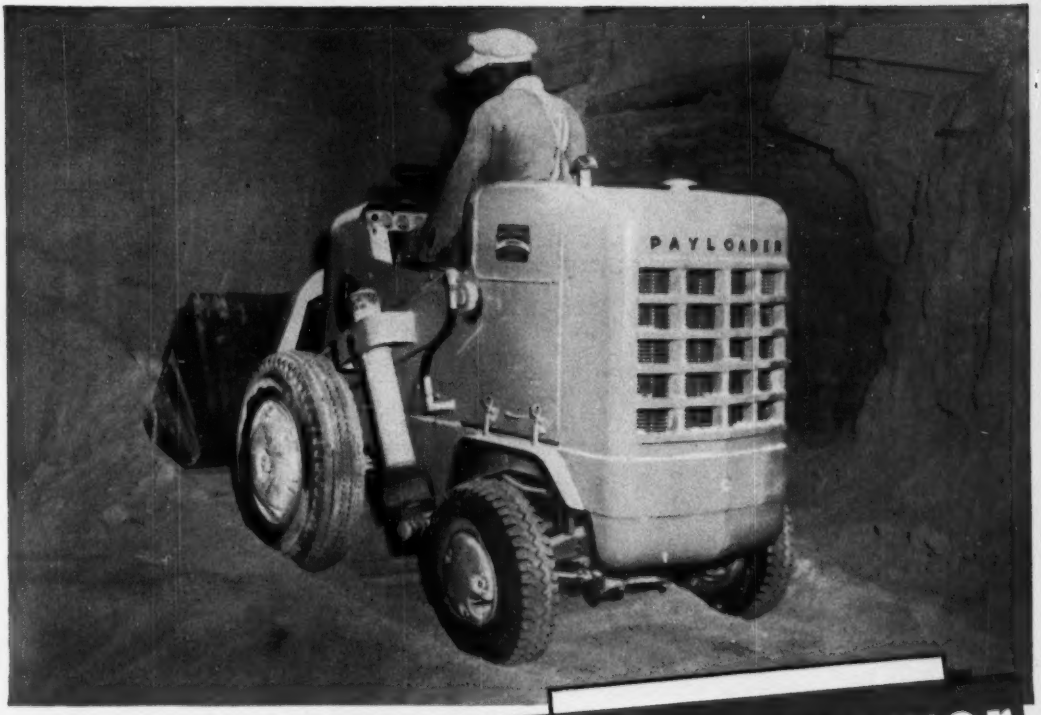
ONE TOOL YOU CAN USE: To help us give our own Bemis workers the inflation picture, we used the colorful, new 16-page booklet "How Stalin Hopes We Will Destroy America" produced by Pictorial Media, Inc. The more widely the booklet is used, the more good it will do . . . and it is available for distribution to your workers, too. It follows the time-proven "comic book" technique . . . dramatizes the dangers . . . and shows how all our citizens can help halt inflation before it's too late.

TESTS SHOW IT HELPS WORKERS: To get an impartial judgment of the value of "How Stalin Hopes We Will Destroy America," it was tested in Bemis plants by the Psychological Corporation under the direction of Dr. Henry C. Link, a foremost research authority. Dr. Link says "Those workers exposed to the booklet were found to have a significantly higher appreciation of the recommended ways to stop inflation than did the workers who did not see the booklet. Details of this test are available upon request." And Bemis factory workers make such statements as "Everything it says hit home, but you'd never figure it out for yourself until you read it"...."It's told in an interesting way so anyone can understand. My daughter, age ten, understood all of it"..."In picture form it impresses you more. Most people don't read about it"..."Had ideas that we wouldn't think about otherwise while we are working away—good book, agree with it—I guess I won't be the only one."

Because we believe this message is growing more urgent every day, Bemis is taking this means to commend to other businesses this weapon against inflation. It is the first of a series of such material that we expect to use.

BEMIS BRO. BAG CO.
St. Louis 2, Missouri

FOR EVERY BUSINESS, LARGE OR SMALL: In quantities, it costs only a few cents a copy—$10.00 for 100 copies, down to 3 cents per copy in larger quantities. Single copy free. For full information, write PICTORIAL MEDIA, INC., Attention: Paul Wheeler, 205 E. 42nd ST., NEW YORK 17, N.Y.



mechanize your manpower

Take the shovel out of a man's hand and put him on the seat of a PAYLOADER. He'll show you how to lick rising costs, how to increase output and solve manpower shortages. Thousands of plants with bulk materials to handle have taken this step with highly gratifying results. And PAYLOADERS can do so many jobs that there is hardly any limit to their usefulness.

Every PAYLOADER is a complete Hough-built tractor-shovel specifically designed with multiple reverse speeds and other features that insure fast, low-cost bulk material handling. There are several sizes from the 12 cu. ft. Model HA shown, up to 1½ cu. yd. bucket capacity. They are also available in front-wheel, rear-wheel and four-wheel-drive models.

Every PAYLOADER is backed by 30 years of material handling equipment manufacture and a Hough Distributor with complete parts and service facilities. The Frank G. Hough Co., 702 Sunnyside Avenue, Libertyville, Illinois.

On These Jobs

- Unload box cars.
- Dig and carry fertilizers, chemicals, all loose materials.
- Transport and distribute materials from storage to process.
- Unload trucks.
- Load box cars.
- Feed conveyors, hoppers, baggers, elevators.
- Stockpile coal and all kinds of raw materials.
- Clean up gangways, aisles and other areas.
- Handle coal, coke, ashes, cinders.
- Carry bagged materials, bales, barrels.
- Maintain private roadways.
- Do cranework — haul, push.
- Remove snow.

HELP for your material handling problems is found in "Industrial Handling" the free Hough magazine. Catalog on any size PAYLOADER is available, without obligation.

SAY "HUFF"

PAYLOADER®

THE FRANK G. HOUGH CO. • Since 1920

EXACT WEIGHT Sacking Scale installation showing one scale (left) floor mounted, the other scale (right) suspended from ceiling, both on Exact Weight.

Adequate Equipment is the Answer to Low Cost Operation . . .

If you are cost minded study your set-up. When obstinate costs appear there is a leak . . . something is wrong. Rule out extra bag trimming . . . double checkweighing . . . multiple handling. All of these are unnecessary operations that increase labor costs, waste time and prevent full tonnage output. In the sacking operation EXACT WEIGHT Scales stop many of these waste motions because the equipment fills, weighs and checks a bag in one simple fast operation. You have accurate weights at low cost, speed up production and increase your tonnage promptly. The fact that EXACT WEIGHT Scales are in use on one production line after another throughout the industry is proof of their soundness, trouble-free operation and accuracy. Write for details for your plant.

SALES and SERVICE
in all Principal Cities
from Coast to Coast
and Canada.

EXACT WEIGHT SCALES
Industrial Precision
THE EXACT WEIGHT SCALE COMPANY

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First in a series of six advertisements showing magnesium-deficiency symptoms in tobacco, cotton, grapefruit, corn, potatoes and oats.

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Double Sulfate of Potash-Magnesia

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- Promotes earlier maturity on soils low in magnesium.
- Enables crops to make better use of other plant foods.
- Carries phosphorus to the growing and fruiting parts.
- Necessary for the development of seed.
- Promotes the formation of proteins in growing crops.
- Stimulates growth of soil bacteria and fixation of nitrogen by legumes.
- Increases the plant's resistance to diseases.

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CPR-22 Questions Answered

Many fertilizer manufacturers have filed Public Form No. 8 with the Office of Price Stabilization and certain general misinterpretations of the content of CPR-22 are now apparent. In many cases, the context of the order does not clearly establish the procedures by which a manufacturer may determine whether or not he is entitled to increase his selling price.

NFA supplied us with questions asked of OPS officials and their replies:

Q. "A fertilizer manufacturer was wise enough to contract for his manufacturing raw materials at a very favorable price more than a year ago for the 12-month period ending this June. Six months ago he requested quotations for material to be delivered during the coming year beginning July 1, 1951. The quotations he received were at a much higher price than the cost of the materials he is now using. What can he do about this increase in cost?"

A. "The first thing he must do is to determine the 'deadline date' for the various materials he uses—as shown in Appendices A, B and C to CPR-22.

"If the material in question is a coal chemical, such as by-product sulfate of ammonia or a non-metallic mineral — for example, phosphate rock or potash (according to an OPS interpretation), soybean oil meal, cottonseed cake and meal, fish scrap or other listed fish products, paper bags, or jute products containing more than 50 percent by weight of jute, the deadline date is March 15, 1951.

"If the manufacturer either received quotations or entered into a contract for these materials between January 15, 1951 and March 15, 1951, he may use the price quoted or contracted as the case may be.

"A copy of the written offer must be kept on file. This information is contained in Section 18 of the regulation. We suggest that you ask all your people to make certain they have studied all of that section, especially paragraphs 'd' and 'e'."

Q. "What about other materials not included in our previous question? Cotton bags and superphosphate, for example."

A. "Of course, as we said before, you must determine the 'deadline date' from the three appendices. For other materials including superphosphate and cotton bags, the date is December 31, 1950. You should use the contracted price or the quoted price if contract negotiations have not been completed, dated in the 60-day period from November 1, 1950 to December 31, 1950. We suppose that most of your nitrogen compounds will fall within this period along

(Continued on page 56)

It Seems to Me

by BRUCE MORAN

It seems to me that matters vitally affecting the public welfare should be studied, instead of being handled like a Barnum & Bailey circus production. The Delaney Committee hearings for example.

Our old friend Louis Bromfield is an excellent writer. He may be a very fine farmer. But he certainly is not an authority on whether or not DDT produces Virus X symptoms.

We have plenty of capable scientific men in the country to study this particular question, just as we have plenty of honest economists to study that type of problem. But we call in names that will make headlines for Congressmen . . . and that's the way the laws are written.

Let's take a little time off from worrying about what outside enemies may do to us, and appraise what the Circus Boys in Congress are doing to us right now.

Northwest FERTILIZER CONFERENCE HELD IN *Oregon*

By R. G. Fowler, Jr.
Information Specialist, Oregon State College Extension Service, Corvallis, Oregon

Blue Lake green bean yield figures show a considerable response to both nitrogen and phosphorus on the Oregon State college experiment station, reported S. B. Apple, experiment station horticulturalist, to 200 northwest fertilizer industry leaders and state college soil scientists attending the second annual northwest fertilizer conference.

The three day meeting was held June 27, 28 and 29 at Oregon State college, Corvallis.

Continuing his fertilizer studies with vegetable crops report, Apple said that when nitrogen was used alone on Chehalis silt loam soil the total bean yield was slightly but not significantly greater than the check plots. On the other hand, use of phosphorus with nitrogen and the fertilizer applied at planting gave significantly greater yields than the use of nitrogen alone.

He said it was quite clear as a result of work carried out at the station that on some soils in the Willamette Valley where Blue Lake beans are grown there will be response to phosphorus when used with nitrogen.

Apple was among the conference program speakers. First day of the three day meeting was devoted to a discussion of foliar analysis. Workers at the Prosser, Washington irrigation experiment station, reported Dr. F. G. Viets, soil scientist, have uncovered some deficiencies that were never known to exist. He expressed a hope that some day plant tissue testing will be refined to a point where a plant sample will lead to an exact fertilizer application recommendation.

He said sugar cane interests in Hawaii have made the most progress with tissue testing, and are now growing more than 50,000 acres of the crop and fertilizing it on the basis of tissue tests.

Dr. A. W. Marsh, Oregon State college experiment station soil scientist, reported results of work being carried out with minor elements. He said minor elements are frequently thought to be the magic elements which will solve problems which cannot be solved by applying the primary elements, nitrogen, phosphorus, potassium and calcium. Continuing, Dr. Marsh pointed out that need for minor elements is not great in the northwest, although boron and sulphur deficiencies are fairly widespread especially on lighter soils. Although most Oregon soils are most likely to contain too much manganese than too little, liming can create a shortage.

He said zinc deficiencies have been noted in corn and bean plantings in the Columbia basin area; zinc is deficient in The Dalles area; and the Klamath basin sector of southern Oregon tends to be low in copper.

Describing the chemistry of soil acidity, Dr. B. R. Bertramson, chairman of the Washington State college department of agronomy, suggested that farmers might pay more attention to soil pH level. "Farmers will not get maximum efficiency from their soils or fertilizer until they pay some attention to soil acidity," he asserted. Soil tests are extremely accurate in determining how much lime to use to correct acidity, and this is a point that lies heavily weighed in a farmer's favor when he goes about correcting acid soil conditions.

Featured banquet speaker was Dr. S. C. Vandecaveye, president of the Soil Science Society of America and a Washington State college soil scientist. He discussed fertilizer usage in this country and compared it with two European countries, Belgium and The Netherlands. In those two countries, for ex-

ample, the average annual nitrogen application per acre is 63 pounds to our three; average phosphate applications are 102 pounds to our five; and potash application rates exceed our 100 pounds to three.

As a result, crop yields in the two countries are extremely high due to a combination of high fertilizer application rates, good farming practices and favorable climatic conditions.

Dr. Vandecaveye said average per acre yields in Belgium and The Netherlands for the following crops are: winter wheat, 50 bushels; oats, 165 bushels; potatoes, 11 tons; and sugar beets, 27 tons.

G. A. Fitzpatrick, president of the Northwest Plant Food association, and manager of the Pacific Supply Cooperative, chemicals division, Portland, said northwest farmers made a $20,000,000 investment in fertilizers during 1950. He recommended that the state colleges in Oregon, Washington and Idaho expand their fertilizer trial programs to keep abreast growing fertilizer use.

A dimmer side of the fertilizer picture was voiced by a Production and Marketing administration spokesman from Washington, D. C., Roland Crumpler. He said the fertilizer outlook as compared with a year ago was for 22 percent more nitrogen, a 24 percent potash increase, and about the same supply of phosphates available.

He implied, however, that phosphates would be increasingly difficult to buy because more and more farmers are learning the value of plant foods and are actively searching the market to buy.

Sulphur is the production bottleneck in phosphate manufac-

(Continued on page 56)

Insert: The president of the Soil Science Society of America, Dr. S. C. Vandecaveye, gave the feature address during the recent second annual northwest fertilizer conference, held during June on the Oregon State college campus.
First Row: Discussing program features are, from left: F. E. Price, dean and director of agriculture at Oregon State college; G. A. Fitzpatrick, Portland, Pacific Northwest Plant Food association president; and Bion Tolman, Salt Lake, Utah-Idaho Sugar company general agricultural superintendent.

Arrangements were handled by the four shown. They are, from left: George Wickstrom, Sumner, Washington, chairman of the Pacific Northwest Plant Food association soil improvement committee; Leroy E. Warner, Oregon State college extension soil conservation specialist; Dr. R. A. Pendleton, Oregon State college experiment station soil scientist who served as program chairman; and Dr. B. R. Bertramson, chairman of the Washington State college agronomy department.

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Oregon KNOWS THAT FERTILIZER *Pays*

By Lyle M. Nelson

Out in Central Oregon farmers don't have to be told of the benefits which can be expected from the proper use of commercial fertilizers on their lands. They have a graphic demonstration at first-hand in the rags-to-riches history of little Jefferson county, Oregon's fastest growing area.

Once known as the state's "dust bowl," the county now is a lush farming center where the average farm income in 1950 was an estimated $15,000. Lands once lacking in moisture and so low in organic content that they wouldn't grow weeds now are producing one of the finest crops of Ladino clover seed in the nation.

Among the many factors which have contributed to the success of Jefferson county, perhaps two stand out. First of these, of course, is the coming of irrigation to a once dry-farmed area with a sparse rainfall of less than nine inches annually. Second is the intelligent, farsighted planning and operation which have gone into the new agricultural pattern . . . and intelligent farming, of course, means the right use of the right fertilizer at the right time.

But first, let's take a look at the Jefferson county of yesterday. In the drought years of the 30s, some 25 families struggled to eke out a living on what is now known as the "North Unit Irrigation Project." Abandoned buildings dotted the landscape and farms could be purchased for the taxes. Years of intensive wheat cropping, without returning anything to the soil, and a succession of dry summers had combined to make the parched land almost worthless. Business suffered, too, with many a previously sound establishment closing its doors. Lots in Madras, county seat, went begging with the county sheriff the only taker.

An air of despair and gloom, which even the majectic snow-capped peaks nearby couldn't dispel, seemed to hang over the area. In short, Jefferson county took on all the appearances of a dust bowl—a heartbreak land where no one came and mighty few stayed.

Today all that is changed. With a population increase of 170 percent since 1940, the county is Oregon's fastest growing area. On the same 50,000 acres where once 25 families lived, more than 600 make their homes. The same land, physically, if not chemically, which could be purchased for taxes now is yielding a golden harvest of ladino clover seed valued as high as $900 an acre.

The gross earnings on the project in 1950, according to a recent Bureau of Reclamation tabulation, were $5,224,380. This was the highest on record, comparing with approximately $4,900,000 in 1949 and 3,000,000 in 1948. In the five years since the delivery of the first water the value of crops raised on North Unit lands has reached nearly $15,000,000, a record even the most enthusiastic promoters of the project wouldn't have thought possible.

What is more, prosperity has not been confined to the farm alone. The effect of new farm markets has caused a tremendous expansion of business generally. In booming Madras, the population has trebled in 10 years and new cars and trucks now line newly paved streets in front of brand new stores. Scores of new businesses, ranging from creameries to soda fountains and including several new feed and farm stores, have gone up almost overnight.

Why so great a change in such a short time? Irrigation, of course, has been the main answer, but it hasn't by any means been the whole one. For the coming of irrigation brought with it an almost complete change in farming practices, ushering in contour plowing, marking to prevent wind erosion, cover crops, crop rotation,

JEFFERSON COUNTY, OREGON, 1935—Abandoned and grown up with sagebrush and weeds, a piece of Jefferson county land stands as evidence of drought conditions and poor farming practices which caused the area to be known in the 30s as "Oregon's Dust Bowl." Here a lone county agent surveys the damage which has been wrought and makes plans for the future.

JEFFERSON COUNTY, 1951—Graphic evidence of the new type of farming which has come to this Central Oregon community is presented by this photograph. In the background are well-kept farm buildings and in the foreground carefully laid out fields, marked to prevent wind erosion.

and careful and intelligent use of fertilizers to restore to the soil some of the organic matter so carelessly squandered on low yield wheat crops.

Turning point in the history of the county came on a warm afternoon in May, 1946, when the U. S. Bureau of Reclamation opened the gates of its new irrigation project. As the snow-borne waters fingered out over the dust fields, farmers and agricultural leaders knew that a new day had dawned. Few, even then, realized the extent of the change which would take place.

Water for the 50,000 acres travels nearly 100 miles before reaching the thirsty lands. It is stored in vast Wickiup reservoir high up in the Cascade mountains where snow runoff virtually assures a permanent water supply. From Wickiup, the water travels down the bed of Oregon's picturesque Deschutes river to just north of the city of Bend where it is diverted into a 65 mile long canal. It reaches the south edge of the project just north of the city of Redmond.

Because the memory of crop failures, poor farming practices and business stagnation is still so clearly etched in the minds of most of the county's old-timers, every effort has been made not to repeat the mistakes of the 30s. This, perhaps as much as anything else, has been an underlying factor in the close cooperation and intelligent planning which have gone into development of the area under irrigation. When the first water reached the land, local state and federal leaders were ready with complete plans and recommendations as to crops, efficient irrigation systems and related matters. Local committees had been at work for months on plans for orderly growth including such varied projects as how to attract more farm processing industries and the planning of recreational facilities for the area's young people.

That sound agricultural practices still prevail is perhaps nowhere better demonstrated than in the use of commercial fertilizers on the lands. In the 30s, rare indeed was the farmer who looked far enough ahead to realize that he must take care of his land if it were to take care of him. Today, according to reports from local agricultural leaders, just as rare is the farmer who isn't concerned with keeping up his soil and who isn't doing something about it.

The best example of the response to agricultural leadership is in the production of ladino clover seed, the largest crop grown on the project. To get the highest seed production requires carefully controlled conditions and intelligent farming, from the most effective use of fertilizer to just the right amount of irrigation at the proper time. Today the entire operation is closely synchronized over the project so as to produce maximum results.

(Continued on page 56)

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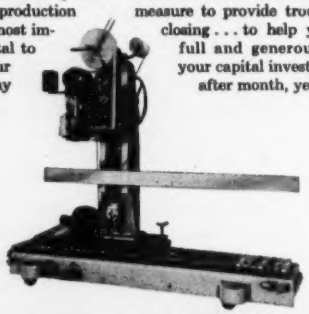

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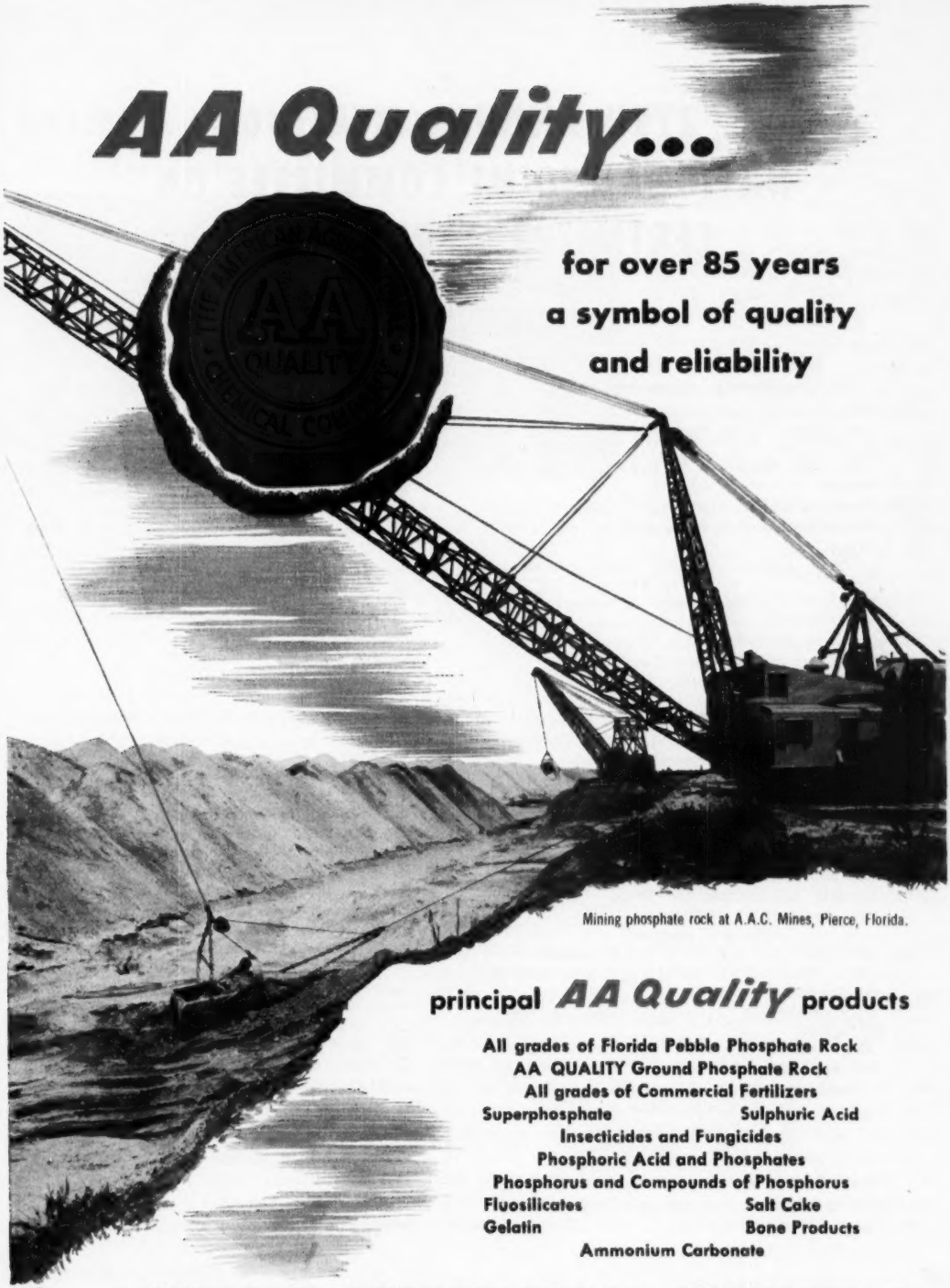

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27TH ANNUAL MEETING NATIONAL JOINT COMMITTEE ON FERTILIZER APPLICATION

Held Jointly with the
American Society for Horticultural Science
St. Paul, Minnesota*
Program Chairman—R. L. Carolus

Morning Meeting September 10, 1951

9:30 New Concepts and Recent Practices in the Use and Application of Fertilizer to Deciduous and Small Fruits.
Committee Report—A. L. Kenworthy and Committee

10:00 Future of Leaf Analysis as a Diagnostic Tool for Determination of Fertilizer Requirement of Fruit Crops.
W. P. Judkins—Virginia, Panel Chairman
A. F. Camp—Florida
A. L. Kenworthy—Michigan
O. Lilleland—California
M. E. McCollam—California
G. F. Potter—Louisiana
N. J. Shaulis—New York
E. K. Walrath—Massachusetts

10:45 Use of Fertilizer Solutions in Leaf Feeding.
N. F. Childers—New Jersey, Panel Chairman
Damon Boynton—New York
A. F. Camp—Florida
L. L. Danielson—Virginia
T. A. Merrill—Washington
E. R. Parker—California
S. H. Wittwer—Michigan

11:30 Recent Fertilizer Machinery Developments Particularly for Horticultural Crops.—G. A. Cumings, Agricultural Engineering, USDA

Afternoon Session

1:30 The Importance of Some Easily Measurable Factors of Soil Fertility and Land Management in the Production of Sweet Corn.
G. R. Muhr—Green Giant Company, LeSueur, Minnesota

2:00 New Concepts and Recent Practices in the Use and Application of Fertilizer to Vegetable Crops.
Committee Report—J. B. Hester and Panel
M. T. Vittum—New York
E. R. Purvis—New Jersey
M. L. Odland—Pennsylvania
E. P. Brasher—Delaware
V. A. Tiedjens—Virginia

*The meeting will be held at the University of Minnesota.

Thursday Afternoon, September 11, 1951

Private Dining Room #9, Stevens Hotel

2:00 Opening Remarks, "Organization and Objectives of the Fertilizer Section."
General Chairman—A. B. Petitt, Supervisor, Industrial Health and Safety, The Davison Chemical Corporation, Baltimore, Maryland.

2:10 Report of Nominating Committee—H. R. Krueger, Director Technical Service, Phillips Chemical Company, Bartlesville, Oklahoma.

2:15 Election of 1951-52 officers.

2:20 "Top Management's Safety Responsibility and the Benefits the Industry Will Derive from Safe Operations"—W. N. Watmough, Jr., Vice President, Mixed Fertilizer Division, The Davison Chemical Corporation, Baltimore, Maryland.

2:50 "Achieving Safety in Fertilizer Plants" (A Symposium)—
Discussion Leader—J. M. Sisson, Safety Officer, Tennessee Valley Authority, Wilson Dam, Alabama.
(a) "Handling of Sulfuric Acid"—David P. Delavan, Chemical Superintendent, Pasadena Fertilizer Plant, Mathieson Chemical Corporation, Pasadena, Texas.
(b) "Handling Anhydrous Ammonia and Ammonia Solutions"—H. R. Krueger, Director Technical Service, Phillips Chemical Company, Bartlesville, Oklahoma.
(c) "Handling Bulk Storage" (construction and removal of bulkheads, storage and handling of explosives and elimination of slides)—U. C. Ellis, General Superintendent, Plant Food Division, Swift & Co., Chicago, Illinois.
(d) "Operation of Mobile Equipment"—C. E. Killebrew, Sales Manager, The Frank G. Hough Company, Libertyville, Illinois.
(e) "The Importance of Good Housekeeping in Lowering Costs"—M. F. Wharton, Secretary-Treasurer, Arizona Fertilizers, Inc., Phoenix, Arizona.
(f) Discussion.

4:15 Sound film on fertilizer safety (tentative.)

NATIONAL SAFETY CONGRESS SCENE OF FERTILIZER SECTION MEET

At the first fertilizer industry safety conference:
From left to right: sitting, Mr. J. S. Fields, Safety Director, Phillips Chemical Co., Bartlesville, Oklohoma; Mr. A. B. Pettit, Supervisor, Industrial Health and Safety The Davison Chemical Corporation; Miss Helen V. O'Hara, Secretary to Mr. Pettit. Standing: Mr. W. P. Stansbury, Supervisor of Production, Mixed Fertilizer Division, The Davison Chemical Corporation; Dr. M. H. McVickar, Chief Agronomist, National Fertilizer Association, Washington, D. C.; Mr. Paul T. Truitt, President, American Plant Food Council, Washington, D. C.; Mr. H. R. Krueger, Director of Technical Service, Phillips Chemical Company, Bartlesville, Oklahoma; Mr. J. M. Sisson, Safety Officer, Tennessee Valley Authority, Wilson Dam, Alabama, and Mr. M. F. Wharton, Secretary-Treasurer, Arizona Fertilizers, Inc., Phoenix, Arizona.

Plans were made for a fertilizer industry safety program at the first meeting, held in Baltimore, May 16, of the Advisory Committee of a newly organized Fertilizer Section of the National Safety Congress, under the chairmanship of A. B. Pettit, Supervisor of Industrial Health and Safety of The Davison Chemical Corporation. A formal program for nation-wide action will be presented at the October 11, 1951 National Safety Congress in Chicago.

"Although there are more than 500 fertilizer plants in the United States, there has never prior to this been any organized national effort to reduce the appalling frequency and severity of accident injuries occuring in the industry," Mr. Pettitt said in announcing the appointment of the Fertilizer Section and launching of the project at the meeting of the Advisory Committee. Last year Davison won two safety awards from the National Safety Council.

Serving on the section with Mr. Pettit, who is general chairman, are J. S. Fields, Phillips Chemical Co., Bartlesville, Okla., vice-chairman, and J. E. Smith, Spencer Chemical Co., Pittsburg, Kansas, secretary - treasurer. The Advisory Committee consists of these officers and the following individual members: J. M. Sisson, Tennessee Valley Authority, Wilson Dam, Ala.; H. R. Krueger, Phillips Chemical Co., Bartlesville, Okla.; M. F. Wharton, Arizona Fertilizer, Inc., Phoenix, Arizona; and R. L. Hugg, International Minerals and Chemicals Corp., Chicago, Ill.

Pointing out that many other industries have for years cooperated to conduct special sessions for the solution of specific problems at the National Safety Congress, Mr. Pettit said that industries which have conducted special aggressive programs have been well rewarded by a substantial reduction in the number and seriousness of their accidents and a decided decrease in the industrial illness experienced by employees.

The fertilizer industry is being urged to send representatives to the forthcoming meeting of the Congress where measures for reducing accidents and industrial illness, such as the exchange of health and accident information, the maintaining of proper records and the analysis of accident causes, will be discussed. Mr. Pettit reports widespread interest in the program among the companies, and the National Fertilizer Association and American Plant Food Council have indicated wholehearted support.

Rutgers Conference Sept. 27

The annual conference of fertilizer manufacturers and dealers will be held at Rutgers University's New Jersey AES on Thursday, September 27th.

CFA Convention November 1-3

Plans are rapidly shaping up for the annual convention of the California Fertilizer Association, which is slated for November 1-3 at the Hotel California, Fresno. Dr. Wallace Macfarlane is chairman of the program committee; Dr. Guy MacLeod is entertainment chairman, while Mrs. MacLeod will head the ladies committee, according to Sidney Bierly.

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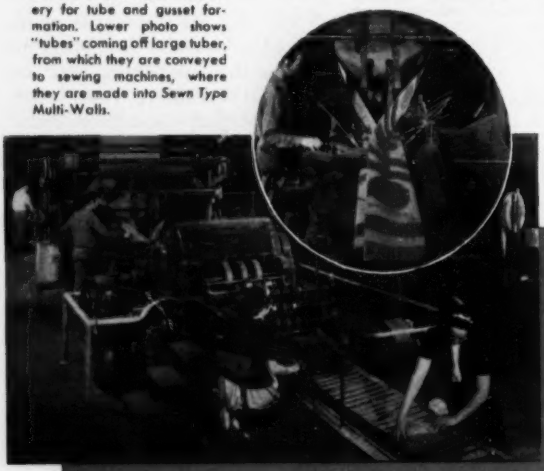
Insert shows intricate machinery for tube and gusset formation. Lower photo shows "tubes" coming off large tuber, from which they are conveyed to sewing machines, where they are made into *Sewn Type* Multi-Walls.



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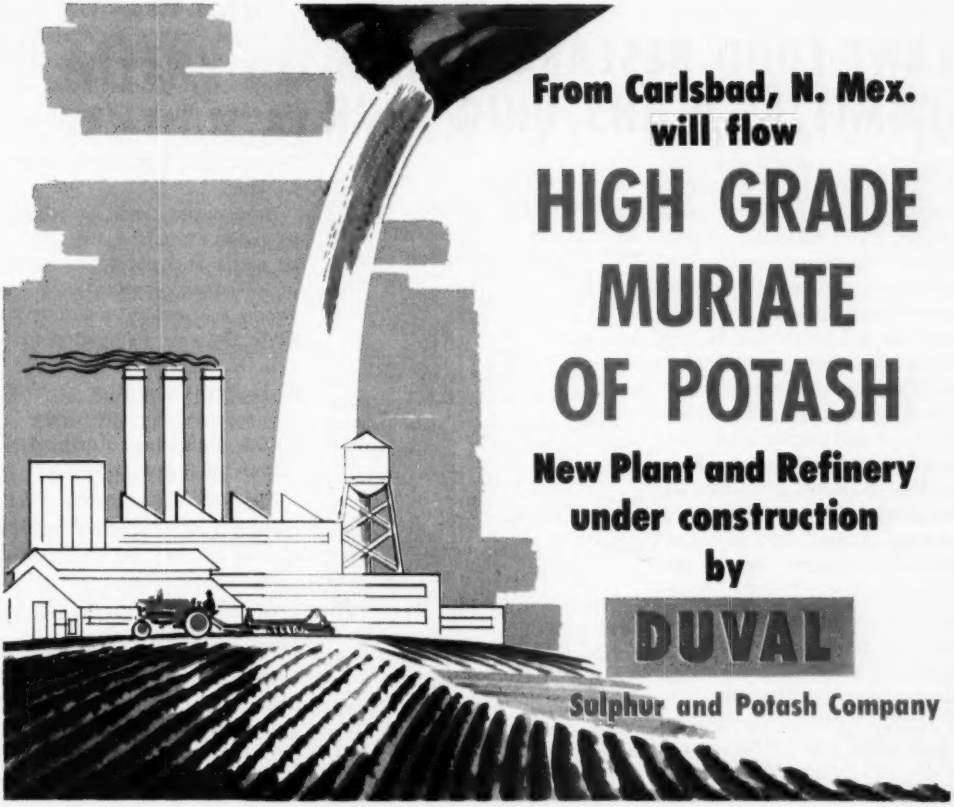

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DUVAL POTASH FOR BETTER PRODUCTS OF FARM AND FACTORY

PLANT FOOD RESEARCH COMMITTEE PLANS OHIO TOUR

The Ohio State University and Pennsylvania State College staff members have arranged a tour of their respective states for members of the Plant Food Research Committee and for all interested college and industry agronomists and representatives. This tour to be held prior to the meeting of the American Society of Agronomy and Soil Science Society at State College, Pennsylvania, will start at Columbus, Ohio at 8:30 a.m., Thursday, August 23rd and end Saturday afternoon, August 25 at Slippery Rock, Pennsylvania.

In order that those wishing to attend all or part of this tour can join the group and can make their reservations, the itinerary and supplemental information as to possible lodging accommodations and points of interests, are as follows:

Wednesday, August 22, 1951

Night: Hotel: Columbus, Ohio —Fort Hayes, Deshler-Wallick, Neil House, Chittenden, or Southern.

Thursday, August 23, 1951
8:30 A.M., E.S.T.

Meet at Townsend Hall, Ohio State University. Spend forenoon visiting extension demonstration tests under direction of Professor E. P. Reed in vicinity of Columbus.

1:30 P.M., E.S.T.—Visit Ohio Seed Corn Producers Research Farm, Croton, Ohio under direction of J. E. Van Fossen, Manager. Points of interest will be seed corn processing and storage, corn and soybean variety test, fertility program, and grass and legume observation plots.

Night: Hotel: Mansfield, Ohio —Mansfield-Leland, Fairview, or Southern.

Friday, August 24, 1951
9:00 A.M., E.S.T.

Visit Malabar Farm, Lucas, Ohio as guest of Louis Bromfield. This is an opportunity to meet and become better acquainted with Mr. Bromfield and his program of food production and soil conservation through the use of well fertilized grasslands.

1:30 P.M., E. S. T.—Meet at Thorne Hall, Ohio Agricultural Experiment Station, Wooster, Ohio. Inspect research at Ohio Agricultural Experiment Station including fertilization, methods of seeding and pasture research.

Night: Hotel: Wooster, Ohio—Ohio or Wooster.

8:00 P.M., E.S.T.—Evening discussion at Administration Building by members of the Experiment Station Staff.

Saturday, August 25, 1951
8:00 A.M., E.S.T.

Leave Wooster for Slippery Rock, Pennsylvania, travelling through the industrial and agricultural area of North Eastern Ohio.

12:00 P.M., E.S.T.—Lunch at Slippery Rock State Teachers College, Slippery Rock, Pa.

1:30 P.M., E.S.T.—Visit fertility demonstration tests under direction of Walter Hess, Vocational Agriculture Teacher, Slippery Rock, Pennsylvania, and Dr. L. L. Huber, Agronomy Department, Pennsylvania State College.

Information will be supplied to those attending this tour as to roads and points of interest in Western Pennsylvania between the end of the tour and State College, Pennsylvania.

H. H. Tucker, P. W. Gull, G. N. Hoffer, Committee on Tours.

USDA Publishes Yearbook "Crops in Peace and War"

The U. S. Department of Agriculture has announced publication of the 1950-51 Yearbook of Agriculture, a 968-page volume entitled "Crops in Peace and War," devoted to the uses of major farm products, and which deals with the processing of all major American farm products, their industrial and food uses, byproducts from them, the utilization of wastes and secondary materials, the procedures involved in finding new uses, and the requirements of consumers and markets. It is intended primarily to inform farmers about the handling of their products, but it should also be of value to, many city people.

Baker at New Address

H. J. Baker & Bro. have announced that on July 9 they moved to 600 Fifth Avenue, New York 20, N. Y. and that their phone number there is Plaza 7-6750.

100 ATTEND DEL-MAR-VA CONVENTION AT OCEAN CITY

When the Eastern Shore fertilizer manufacturers met at the 30th annual convention of the Del-Mar-Va Peninsula Fertilizer Association, at the George Washington Hotel, Ocean City, Maryland, more than a hundred were in attendance. Delaware's Governor, and fertilizer manufacturer, Elbert N. Carvel presided.

Talks were heard from representatives of the National Fertilizer Association, the American Plant Food Council, Dr. Borden S. Chronister, the Barrett Division, Allied Chemical & Dye Corp., and by the Hon. Herbert R. O'Conor, U. S. Senator and former Governor of Maryland.

In Dr. Chronister's talk, "Nitrogen in Modern Agriculture," he termed the element "the senior partner in the plant food bank," and likened the soil to a bank in which one must keep his accounts in balance by depositing at least as much as is removed. He warned against "robbing the bank" by withdrawing much and replacing little.

"The fertilizer industry holds the key to a better standard of living," he said. "Fertilizer is still the farmer's best buy." He presented charts showing that withdrawls are equal to, if not greater, than deposits of plant food, and urged the use of more nitrogen. "We don't have legumes and manures like we did in times past, and this deficiency must be made up," he declared. "Commercial fertilizers and manures work together and complement each other," the argonomist declared, but emphasized that manures, when used alone, soon reach a stalemate. "You can get just so much out of manure . . . no more," he concluded.

Fred S. Lodge, secretary-treasurer of the National Fertilizer Association, Washington, D. C., told the group that supplies of fertilizer raw materials are bound to be tight during the coming year, particularly in superphosphate, but declared that nitrogen supplies are likely to be increased.

Louis H. Wilson, secretary and director of information of the American Plant Food Council, Washington, D. C., discussed the supply situation further, quoting Secretary Brannan that while the government is eager to help in supplying plant food, private industry is expected to carry the heavy responsibility of production.

Senator O'Conor's appearance on the program came as a surprise. He reminded the group that it is the business people of America who recognize most acutely the dangers of inflation and reiterated that the Kremlin is waiting for and expecting a collapse of the American system. Inflation, he said, is the most positive way to bring this about.

Governor Carvel introduced a number of visitors, including agronomists, control officials from the three states represented, industry people, and the trade press. The afternoon program was devoted to recreation for conventioneers and their wives. In charge of entertainment for men was W. H. Smith, D. D. Culver and J. Otis McAllister. The ladies committee comprised Mrs. T. Scott Purse, Mrs. W. B. Tilghman, Jr. and Mrs. Warner W. Price. Governor Carvel was chairman of the program committee, composed of Ralph A. Ross and John L. Morris. Registration was handled by Robert A. Fischer and James Sturgis, while Ben T. Truitt and T. Scott Purse took care of hotel arrangements.

NFA Districts Changed

At their annual meeting, the Board of Directors of NFA voted to change the boundaries of certain Districts in order to more equitably distribute membership representation and to have district boundaries conform to State lines. Effective July 1, 1951, the Districts include the States as follows:

District 1—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut.

District 2—New York, Pennsylvania, New Jersey, Maryland, Delaware, West Virginia and the District of Columbia.

District 3—Ohio, Michigan, Wisconsin, Illinois, Indiana, and Kentucky.

District 4—Virginia and North Carolina.

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★ CONTINUOUS AMMONIATION UNITS
★ MIXING AND SHIPPING EQUIPMENT

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Crushers
Disintegrators
Dry-Mixing Units
Dust-Arresting Equipment
Fume Scrubbing Systems
Hoppers and Spouts
Materials Handling Equipment
Milling and Screening Units
Multiple Hopper Batching Systems
Oil Fired Dryers
Plant Mechanization Systems
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District 6—Georgia.
District 7—Florida.
District 8—Alabama, Mississippi and Tennessee.
District 9—Louisiana, Arkansas, Oklahoma, Texas, and New Mexico.
District 10—Minnesota, Iowa, Missouri, Kansas, Nebraska, North Dakota, South Dakota, Montana, Wyoming, and Colorado.
District 11—Washington, Oregon, Idaho.
District 12—California, Arizona, Utah and Nevada.

NFA Reprints "Witchcraft" Article

Reprints are available from NFA of the article "Science vs "Witchcraft" which was published recently in Fertilizer Review, and are available to all who can make good use of them in answering the charges that fertilizers are endangering animal and human health.

NFA Publication Provides New Statistical Information; Forecasts Future Use

NFA's latest publication, Fertilizer Use at the Half-Century Mark, a 24-page pamphlet, with illustrations and in color, is designed to meet the need for new and adequate statistical information about the distribution and use of mixed fertilizers and fertilizer materials. Such data is essential not only to members of the industry, but also to the farmer-consumer and all others interested in the promotion of sound agriculture in America.

The publication reflects the results of a Federal survey dealing with the application of fertilizer to individual crops, by regions, which brings the usage picture up-to-date.

Much that is new in fertilizer use has taken place since the close of World War II. With the advent of the present emergency and its resultant disjointed supply and production schedules, it is believed that 1950 is perhaps the best possible choice of recent years as a "normal fertilizer year."

The data presented in the study are believed to have sound bases. The Bureau of Agricultural Economics, U. S. Department of Agriculture, in 1948 conducted a farm survey on a regional basis of consumption and use of fertilizer during the calendar year 1947. After a careful study of the results of the Bureau's survey, NFA proceeded to interpolate the figures on a 1950 basis since the relative situations in 1947 and 1950 were similar.

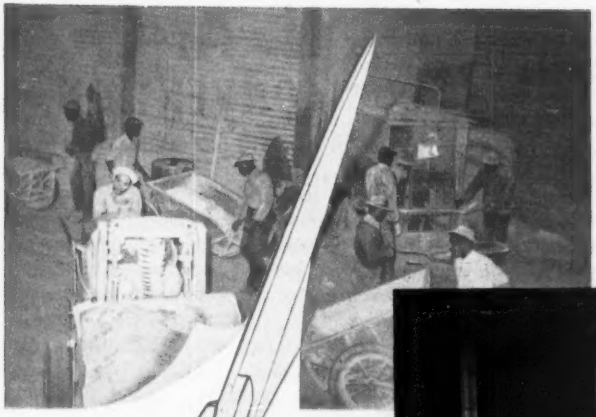
The major work on the booklet was done by John F. Gale, economist, and Malcolm H. McVickar, chief agronomist, of the Association.

Clemson Opens New Ag-Chem School

Beginning with the fall term a new Department of Agricultural Chemistry will be opened by Clemson College, South Carolina. Dr. H. J. Webb will head the new department.

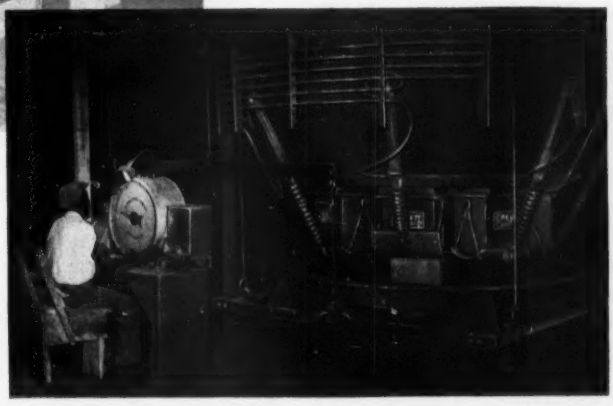
Mason Ford Dies

Mason F. Ford, 52, vice president and director of St. Regis Paper Company, was stricken with a fatal heart attack July 30, in Sao Paulo, Brazil.



IS THIS YOUR PLANT?

Obsolete batching methods formerly used in this plant accounted for the congestion and gross waste of man power shown by this unposed photograph.



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N. A. C. CONVENTION

THE ESSEX & SUSSEX

Spring Lake, N. J. September 5, 6, 7, 1951

Tuesday, September 4, 1951

Registration. The Registration Desk will be opened as follows:

Tuesday, September 4th: 3:00 p.m.—5:00 p.m.
Wednesday, September 5th: 9:00 a.m.—1:00 p.m.
Thursday, September 6th: 9:00 a.m.—1:00 p.m.
Friday, September 7th: 9:00 a.m.—1:00 p.m.

Wednesday, September 5, 1951

10:00 A.M.—12:30 P.M.—Presiding: Mr. Arthur W. Mohr, Vice President.

In general, Wednesday's meeting can be termed "Government Day." Besides the Annual Report of President Ernest Hart and L. S. Hitchner, Executive Secretary, the following representatives of government have been invited to speak:

Mr. P. H. Groggins, Chief, Agricultural Chemicals Section, Chemical Div., NPA, U. S. Dept. of Commerce.

Mr. Thomas H. McCormack, Chief, Rubber, Chemicals & Drugs Div., OPS, Economic Stabilization Agency.

Mr. Howard J. Grady, Chief, Agricultural Chemicals Section, Rubber, Chemical & Drug Div., OPS, ESA.

Mr. L. B. Taylor, Director, Office of Materials and Facilities, Production & Marketing Administration, USDA.

Mr. William R. Allstetter, Deputy Director, Materials and Facilities Division, Production & Marketing Administration, USDA.

This program will permit members to be informed at first hand of all developments pertaining to pesticides in the defense organizations.

6:30 P.M.—Reception for Members and Guests.

9:00 P.M.—Get-to-gether Dance.

Thursday, September 6, 1951

10:00 A.M.—12:30 P.M.—Presiding: Mr. E. H. Phillips.

This session is an open forum for members only. An opportunity to ask questions, offer criticisms and suggestions and discuss current Industry and Association problems. Officers and members of the staff will be present to inform you on Association activities. Committee chairman and special guests will also be present to give specific information on Committee projects and questions of special interest.

1:00 P.M.—Golf Tournament. Registration at Golf Tournament Desk.

7:30 P.M.—Annual Banquet. Ladies Invited. Dress optional. Dancing follows the dinner.

The members of NAC will be privileged this year to hear an address at the banquet by Mr. J. Albert Woods, President of the Commercial Solvents Corporation. Mr. Woods' broad business experience and knowledge of agriculture assures us of an interesting and inspiring message.

President Hart will preside as Toastmaster.

Friday, September 7, 1951

10:00 A.M. to 12:30 P.M.—Presiding: Mr. Ernest Hart, President.

At this session members and guests will hear about "What Is Before Us" from the following speakers:

Dr. H. L. Haller, Ass't. Chief, Bureau of Entomology & Plant Quarantine, USDA.

Dr. H. E. Longenecker, Dean, The Graduate School, The University of Pittsburgh.

Dr. Firman E. Bear, Chairman, Soils Dept., Rutgers University.

Mr. Gus M. Oehm, Director of Public Relations, Pineapple Research Institute of Hawaii.

Mr. Jack Vernon, Vice-Pres., Niagara Chemical Division, Food Machinery & Chemical Corp.

Committee reports will be made.

Ladies are especially invited, and a Ladies' Committee is being appointed.

Registration: Members—$25; Non-Members, $50.

In order to eliminate the necessity of future billings we would appreciate it if members would pay the registration fee in cash or check at the Registration Desk. Arrangements have been made to take care of this at the time of registration.

NAC Urges Farm Chemicals Survey

Lea S. Hitchner, executive secretary of the National Agricultural Chemicals Association has requested that the U. S. Department of Agriculture make a survey of requirements for agricultural chemicals.

Hitchner said that the survey was especially needed at this time because many raw materials used by chemical industry may be urgently needed for other essential defense needs.

The survey would permit manufacturers to plan production schedules, inform growers of available materials, and would guide agricultural colleges in recommending control programs, Hitchner said.

Lion Perfects Weed Killer

Lion Oil Company announces perfection of a weed and grass killer designed to destroy practically every type of herbaceous plant on which it is sprayed. Known as Lion Herbicidal Oil No. 6, this new product is relatively non-toxic and poses no danger to livestock, persons, or to gardens, flowers and ornamental shrubbery adjacent the areas treated. Weed and grass killer is replacing the old-fashioned flame method used for so many years by the railroads to control weeds and grasses along the rights-of-way.

N.Y. AES Demonstrates Low-Gallonage Sprayer

A tractor-mounted sprayer notable for the low volume of water required to apply insecticides to peas, beans, and cabbage and for its speed of operation, will be demonstrated for vegetable growers at their field day at the Experiment Station at Geneva on August 11th.

The sprayer, which was developed on the Station's canning crops farm, has given good control of pea aphids and pea weevil, worms and aphids on cabbage, and Mexican bean beetle on beans in commercial plantings. Its chief advantages are simplicity of operation, relatively low cost of sprayer parts, the small quantity of water required, and the speed with which the spray can be applied.

A rotary gear pump with a capacity of eight gallons per minute operated from the power take-off of a tractor is the essential feature of the sprayer. A 10- to 12-foot boom to cover four rows of beans or cabbage is mounted on the front of the tractor and may be adjusted to the height of the crop. The tractor is operated at a speed of five to six miles to the hour. At this speed and with a pressure of 80 pounds to the square inch, the equipment delivers around 20 gallons of spray to the acre with nozzles set a foot apart on the boom.

For spraying beans for Mexican bean beetles two nozzles per row are used tipped upward from long drop pipes to direct the spray to the under surfaces of the leaves. One pint of a 25 per cent parathion emulsion has given best results for the bean beetle with this equipment.

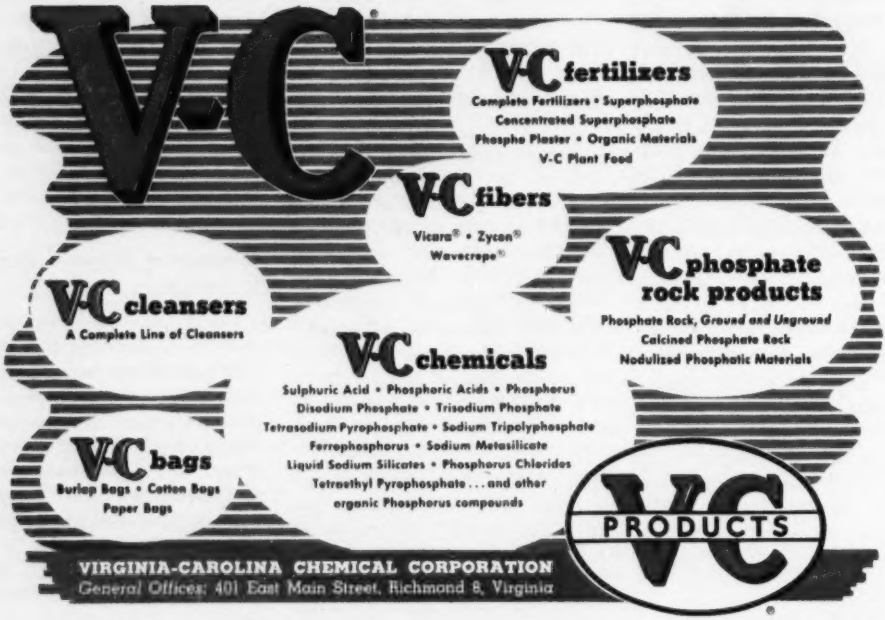
For spraying cabbage three nozzles per row are used, with one directly over the row and one directed inward from either side. A mixture containing 25 per cent DDT emulsion and 25 per cent parathion emulsion has controlled cabbage aphids and worms. One quart of the DDT emulsion or one pint of the parathion emulsion seem to be satisfactory against pea weevil and pea aphids.

Commercial Solvents' New Development Group

Commercial Solvents Corporation has announced the creation of a new group to conduct market development in industrial chemicals and the reorganization of the Technical Service Division. The changes are designed to strengthen the company's sales organization and to provide more efficient service to customers, according to H. J. Henry, Vice President in Charge of Sales.

The Market Development group has been assigned special projects relating to the development of markets for both new products and established products of the Industrial Chemicals Division. Now underway is a market survey on the nitroparaffins and their derivatives based on low projected selling prices reflecting economics resulting from process improvements and contemplated large scale production.

Dr. Frank E. Dolian, formerly Assistant manager of the Technical Service Division, has been appointed manager. Assigned to his staff are the following personnel, previously in the Technical Service Division: Kenneth W. Bayha, San Francisco, A. Mosher Cooke, Boston; Walter C. Gwinner, New York; and



Louis L. Hallock, of the Terre Haute office.

The Technical Service Division, of which Charles D. Goodale is Manager, will devote itself to product quality control and technical service for all divisions of the company.

Commercial Solvents Issues New Riboflavin Booklet

A new booklet which describes the use of riboflavin as an ingredient in livestock, poultry, and other animal feeds has just been issued by the Agricultural Division of Commercial Solvents Corporation, 17 East 42nd Street, New York 17, N. Y.

Included in the booklet is a summary of the latest available information on the role of riboflavin in nutrition, as well as sections describing sources of riboflavin, deficiency symptoms, and recommended nutrient allowances.

Hyman Opens New Laboratory

Last month without the fanfare of dedication or other ceremony Julius Hyman and Company completed and occupied its ultra-modern plant pathological laboratory and greenhouse which adjoins the insecticide testing laboratory and insectary. The new laboratory is ideally equipped for screening new compounds for the control of plant diseases which are synthesized in the Company's Department of Organic Chemistry. The new facilities also make it possible to test these compounds under greenhouse and field conditions.

The laboratory which is under the direction of Dr. J. A. Pinckard will work in close cooperation with the Colorado Agricultural Experiment Station at Fort Collins and with other state agricultural experiment stations. Dr. Pinckard spent 14 years in the southeastern states with various experiment stations working on diseases of tobacco, cotton and various field crops. He was formerly with the Virginia, North Carolina and Mississippi Experiment Stations and with the Division of Cotton and other Fiber Crops and Diseases, U. S. Department of Agriculture. Dr. Pinckard and his associates developed an effective control measure for the downy mildew disease of tobacco and contributed to the control of Fusarium wilt of cotton.

With supply lines around the world, we can furnish manufacturers of fertilizers, feeds, chemicals, and pharmaceuticals with essential raw materials. When you have a problem, write, wire or phone us.

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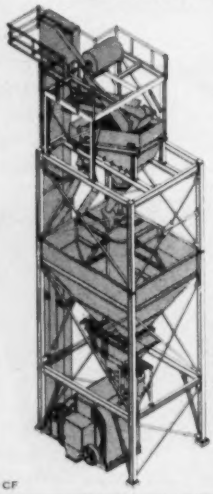
Johnson multiple material weigh-batcher, with 5,000-lb. dial head scale, accurately weighs up to 5 (or more) fine-grained materials. Top levers open fill valves from overhead 5 section bin. Lower lever discharges batch into the mixing unit.

Another

JOHNSON BLENDING PLANT

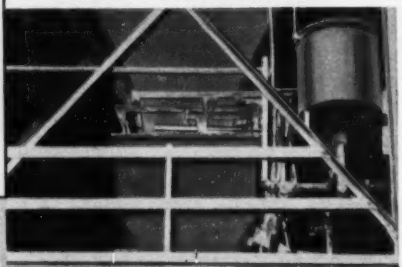
for midwestern fertilizer manufacturer

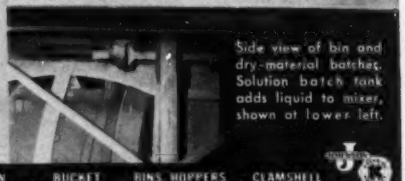


TO modernize one of its plants, a leading midwestern fertilizer manufacturer installed Johnson elevator, bin and batching equipment . . . gained a 25% increase in production, and, at the same time, substantially reduced manpower requirements. As a result, the fertilizer firm has equipped another one of its manufacturing plants with Johnson blending equipment, shown here.

Here's how this mechanized handling eliminates slow, costly manual methods: In one continuous cycle of operation, material travels up bucket elevator to clod breaker . . . through separating screen into collecting hopper. From hopper, pulverized fertilizer passes through pivoted distributor into 5-section, 65 cu. yd. bin . . . then, to multiple-material weigh-batcher, and into mixing unit for final blending operation.

To check savings possible in your plants, call your Johnson distributor, or write us.





Side view of bin and dry-material batcher. Solution batch tank adds liquid to mixer, shown at lower left.

C. S. JOHNSON CO. CHAMPAIGN, ILLINOIS

Send us more information on Johnson fertilizer blending plants.

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Control Officials Act on Pesticides in Fertilizers

A resolution of importance to fertilizer and insecticide manufacturers was unanimously adopted by the Southern Feed and Fertilizer Control Officials at their recent meeting at St. Petersburg, Florida. The resolution was introduced by Rodney C. Berry, the organization's president; other members of the Committee on Pesticides in Fertilizers are: E. A. Epps, Jr., chairman, J. J. Taylor, and M. P. Etheredge.

In providing the Association with the text of the committe's report, Mr. Berry stated that there appeared to be a unanimity in the desire to proceed cautiously but not in such a way that experimentation or progress would be stifled. Mr. Berry states that it is his intention to bring the matter before the American Association of Fertilizer Control Officials at their meeting in Washington, D. C., next October.

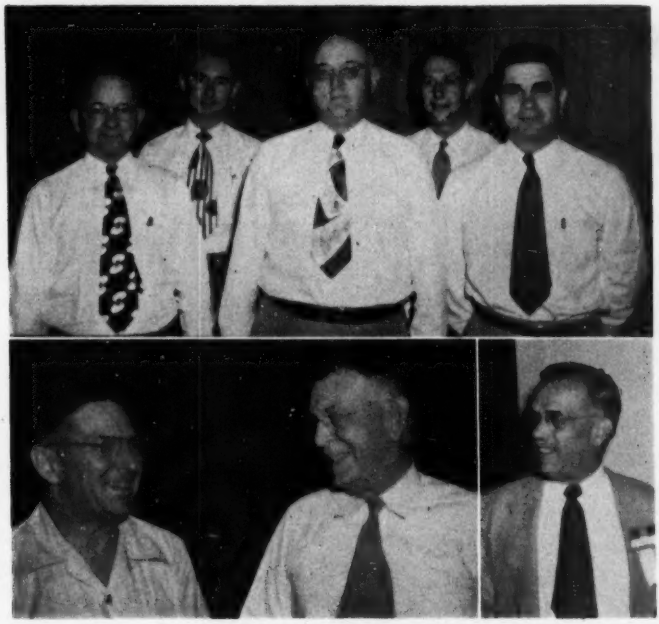
Text of the resolution:

"1. In view of the long lasting effects of the misapplication of pesticides, it is recommended that fertilizer control officials of this Association not register, permit the sale or custom mixing of fertilizers containing pesticides for field crop or horticultural use, unless such mixtures have been formally approved by the Officials of the Agricultural Experiment Station or other officials vested with such responsibility by Law in their State.

"2. It is believed that the use of mixtures of fertilizers and

(Continued on page 57)

FERTILIZER SOCIETY PROJECTED AT GEORGIA GROUP MEETINGS



We visited one of the four conferences of Georgia fertilizer dealers and manufacturers, held at Dublin June 26, Albany June 27, Athens June 28 and Atlanta June 29, and took these pictures of the men who put the show on, and who were the speakers. Top group: W. O. Collins, head of Agronomy, College of Agriculture, University of Georgia; Dr. Fielding Reed, American Potash Institute, Atlanta; W. D. Barton, Tennessee Corporation, Atlanta; J. R. Taylor, APFC, Washington; Borden Chronister, The Barrett Division. Lower group: Cooper Morcock, Jr., Agronomist, Southern district, The Barrett Division; E. D. Alexander, Extension Agronomist, College of Agriculture, University of Georgia; Bob Engle, NFA, Washington. The program included a complete presentation of the virtues of N-P-K and a summary of their point importance. Slides and well-prepared talks made up the program. 381 persons attended the four meetings; 66% being members of our industry.

Prior to these meetings, data on the South Carolina Plant Food Educational Society was gathered. This material was studied by a number of representatives of the larger fertilizer companies. At the request of Harley, Ellis, and Cope in Savannah, the organization and functions of the South Carolina Plant Food Educational Society were discussed at Dublin. Culpepper and Higginbotham of Albany requested that the information be brought forth to the Albany meeting. Rowe and Arnold asked that it be presented at the Athens meeting, and Barton, Baughcum, and Wells had it discussed at the Atlanta meeting. The result was that a State Organizational Committee was selected by each of the meetings, electing representatives for their respective districts of the State to serve on the State Committee.

These persons were chosen to represent Southwest Georgia: W. A. Higginbotham, Armour, Albany; L. B. Hand, Pelham Phosphate, Pelham; R. L. King, Georgia Fertilizer, Valdosta; A. L. Mobley, Banker-Dealer, Ocilla; J. L. Bowen, Dealer, Tifton; S. G. Maddox, Dealer, Blakely.

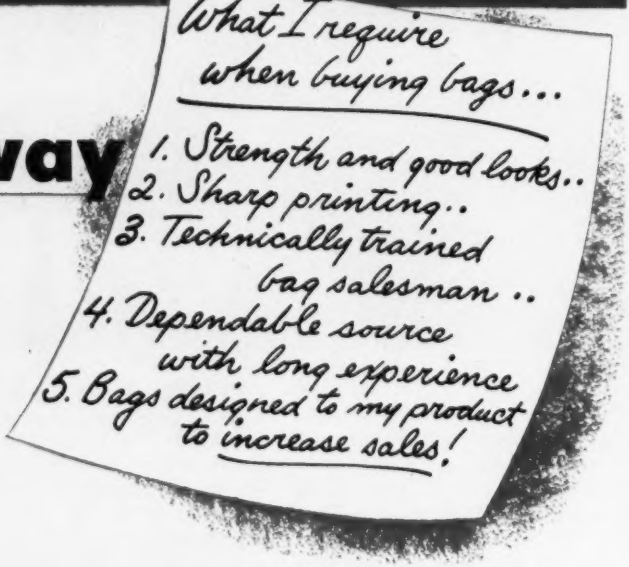
Southeast Georgia: W. W. Harley, Southern Fertilizer & Chemical Company, Savannah; Treutlen Waller, Dealer, Soperton; C. Y. Duke, County Agent, Dublin; E. L. Anderson, Salesman, Statesboro.

Northeast Georgia: Malcolm Rowe, Rowe Warehouse & Fertilizer Company, Athens; H. M. Arnold, Arnold Fertilizer Works, Monroe; R. R. Fowler, Fowler Fertilizer Company, Covington; M. H. Barnett, Dry Mixer, Washington; J. B. Williams, Commerce Fertilizer Company, Commerce.

Northwest Georgia: W. D. Barton, Tenn. Corp., East Point;

(Continued on page 58)

One way to buy bags and the right way


What I require when buying bags...
1. Strength and good looks..
2. Sharp printing..
3. Technically trained bag salesman..
4. Dependable source with long experience
5. Bags designed to my product to increase sales!

"By Rule of Thumb" may do for some decisions. When buying bags, however, thought should be given to this important purchase. You'll want the container that protects your product . . . that is designed for your product . . . that assures the best acceptance of your product. Call in your Chase Salesman. He's technically trained to analyze your requirements. He's supported by more than a century of experience in providing bags for American industry and agriculture.

BAGS FOR ALL INDUSTRY AND AGRICULTURE

CHASE BAGS 1847

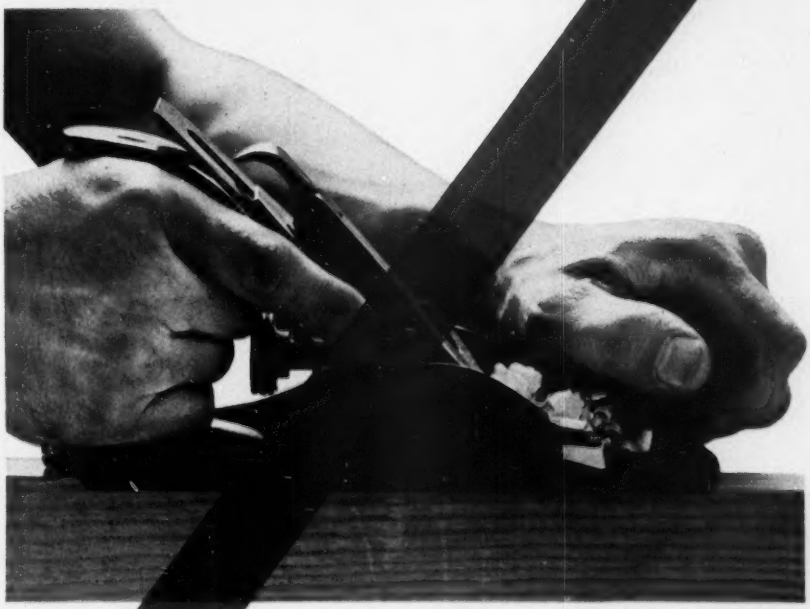
Topmill burlap bags • Saxolin open mesh bags • Paper and Multiwall bags • Cotton bags of all kinds • Combination bags, liners and specialties

for Better Bags...Better Buy Chase

CHASE BAG CO.

GENERAL SALES OFFICES: 309 W. JACKSON BLVD., CHICAGO 6, ILL.

BOISE • DALLAS • TOLEDO • DENVER • DETROIT • MEMPHIS • BUFFALO • ST. LOUIS • NEW YORK • CLEVELAND • MILWAUKEE
PITTSBURGH • KANSAS CITY • LOS ANGELES • MINNEAPOLIS • GOSHEN, IND. • PHILADELPHIA • NEW ORLEANS • ORLANDO, FLA. • SALT LAKE CITY
OKLAHOMA CITY • PORTLAND, ORE. • REIDSVILLE, N. C. • HARLINGEN, TEXAS • CHAGRIN FALLS, O. • HUTCHINSON, KAN. • CROSSETT, ARK. • SAN FRANCISCO



IMPORTANT ANGLE ON FARM PROFITS

In farming, as in carpentry, you get best results when you work *with* the grain, not against it. Modern farmers know that farming on poor or mediocre soil is working against the grain.

To assure the most abundant crops of the best possible quality, the quality of the soil must be constantly maintained or enriched. And nothing is more effective to this end than the wise use of the correct fertilizer.

Many of the most effective fertilizers are compounded with potash—often with Sunshine State Potash, a product of New Mexico, and a soil nutrient which not only provides increased soil fertility, but also gives greater resistance to disease and drought.

Reg. U. S. Pat. Off.
HIGRADE MURIATE OF POTASH
62/63% K_2O
GRANULAR MURIATE OF POTASH
48/52% K_2O MIN.
MANURE SALTS 20% K_2O MIN.

UNITED STATES POTASH COMPANY, *Incorporated*, 30 Rockefeller Plaza, New York 20, N. Y.

I. M. & C. APPOINTMENTS

International Minerals & Chemical Corporation announces these personal appointments: PLANT FOOD DIVISION—1. John W. Rutland, General Manager; 2. Joe F. Stough, Sales Manager; 3. D. N. Barksdale, Mulberry Florida area manager; 4. W. L. Baughcum, East Point Georgia area manager; 5. W. Q. Burns, Texarkana, Arkansas area manager; 6. F. W. Atkinson Hartsville, S. C. area manager; 7. C. H. Elrod, Montgomery, Alabama area manager; 8. J. D. Zigler, Chicago Heights, Illinois area manager.

PHOSPHATE DIVISION—9. F. A. Koechlein, General Manager;

POTASH DIVISION—10. Sinclair B. McCoy, Sales Manager; 11. Milton S. Malone, Atlanta, Georgia, District Sales Manager; 12. Nelson C. White, General Manager.

DAVISON APPOINTMENTS

DR. JOE D. CLARY who has been named superintendent of the specialty catalyst plant operated at Curtis Bay (Baltimore) by The Davison Chemical Corporation.

DR. ALBERT H. COOPER who has been appointed head of the Research Engineering Department of the Research and Development Division.

WALTER K. O'LOUGHLIN who has been appointed manager of the development department of the Research and Development Division.

KENNETH E. PRINCE, who has been appointed head of the Patent Department of the Research and Development Division.

Personals

Walter H. Aldridge, board chairman; **Fred M. Nelson,** president; **Thomas S. Lamont,** chairman of newly formed executive committee . . . that is the new executive setup of **Texas Gulf Sulphur.** Mr. Aldridge had been president since the company was founded 32 years ago, and Mr. Nelson joined them in 1927.

* * *

K. T. Price has become assistant vice president in charge of Southern operations for **Freeport Sulfur. Z. W. Bartlett** becomes assistant general manager, same unit. **B. A. Axelrad** is now general superintendent of the Hoskins Mound plant in Texas.

* * *

Maynard C. Wheeler, Commercial Solvents vice-president in charge of production, who has been with them since 1923, was given the honorary degree of Doctor of Engineering by Purdue at its recent commencement.

* * *

Bemis Bro. Bag Co. personnel changes: **P. J. Hewitt** from sales manager to assistant manager, Peoria multiwall plant; **W. F. Mulvaney,** from assistant sales manager to Mr. Hewitt's former post; **H. O. Parrent,** formerly in charge of sales

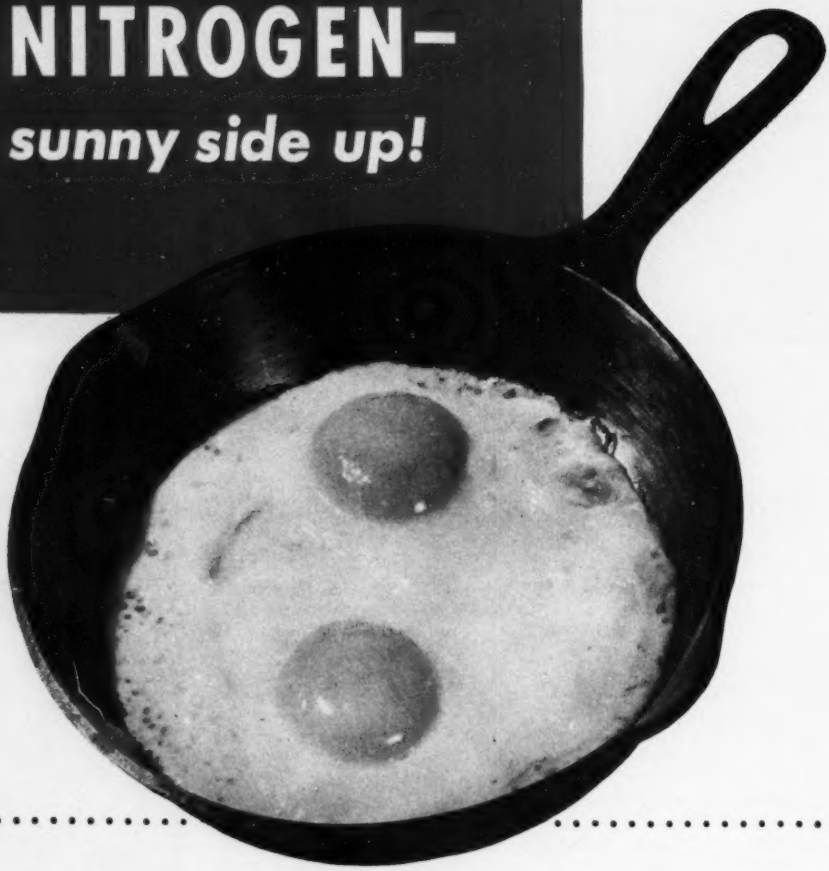
Edwin C. Kapusta who has been engaged by NFA to serve as secretary of its technical committee in the exchange of information between NFA and TVA, reported in our July issue.

R. J. Smith who has just been named general sales manager of Plasteel Products Corporation, Washington, Pennsylvania.

John R. Detgen who has been named Manager of the Naco Fertilizer Company plant in Findlay, Ohio. Prior to this appointment Detgen was assistant to the President of Naco.

Robert W. Schramm, manager, market research section, Spencer Chemical. He joined Spencer in 1949 as a market analyst.

NITROGEN—
sunny side up!



TONS and tons of corn are gobbled up each year to feed poultry and livestock—and to keep America's shopping bag filled with eggs, meat and milk. Add to this all the corn that goes to industry. How in the world can we grow so much? With nitrogen. Nitrogen helps produce more corn per acre and a higher protein yield. No single element does as much to raise this king of crops.

Of the many sources of nitrogen, anhydrous ammonia is the most concentrated and the most economical. It is this preferred form that CSC produces at its Sterlington plant in Louisiana. Most of CSC's production goes to increase the crop yields of Gulf Coast farming land.

CSC

AGRICULTURAL DIVISION

COMMERCIAL SOLVENTS CORPORATION

17 EAST 42ND STREET • NEW YORK 17, N. Y.

Doing one job well for over 90 years . . .

MANUFACTURING PAPER BAGS

Recent Products from the A & S Packaging Laboratory

SHUR-CLOSE VALVE—Tests made in plants all over the country have proved that SHUR-CLOSE valve bags insure less dusting when packing and less shifting when packed. Consumers are requesting shipments in SHUR-CLOSE valve bags because they prevent waste; while operating men in packing rooms claim SHUR-CLOSE bags eliminate objectionable dust.

STA-STAK BAG—It's the specially designed outer creped sheet that does the trick. STA-STAK creped paper takes the skid and slip out of piling, stacking and palletizing. The STA-STAK construction gives greater resiliency to withstand shocks and general abuse better than ordinary multiwall bags. And they handle easier . . . the crinkly surface provides a handhold that workmen appreciate.

SUPER-GLOSS FLOUR BAG—The SUPER-GLOSS flour bag was developed by the A&S packaging laboratory with the help of the country's largest mills: The long fibered white kraft sheet combined with a blue kraft liner makes the toughest 25-lb flour bag on the market. The SUPER-GLOSS clay coated sheet gives this bag exceptional whiteness and keeps ink on the surface, producing a sparkling, appealing shelf package.

ARK-TONE PRINTING—A&S has also perfected developments kindred to the field of paper bag making. The new A&S ARK-TONE PRINTING is a case in point. No other commercial bag printing can touch this ARK-TONE process for printing fidelity. Users report increased sales of ARK-TONE printed bags because strong, sharp, clear colors give package greater shelf appeal. ARK-TONE process printing is the only type of commercial bag printing to combine product reproduction and color brightness.

PLASTO-PAK BAG—This is the very latest development from the A&S packaging laboratory. PLASTO-PAK bags have a polyethylene kraft liner which affords comp'etely moisture-proof protection to hygroscopic materials. Many acids and other strong chemicals, when packed in the PLASTO-PAK bag, fail to attack the liner. A special "Electro-Seal" (patent applied for) closes off the needle holes at the bottom of the bag . . . no other multiwall has this feature.

YOU don't build a good name overnight. It only comes as the result of doing a good job for a long time. After that, people begin to expect quality workmanship from you and bring their business to you for that reason.

Since 1859, we have been building a fine reputation throughout American industry and are proud of our claim . . . "The oldest name in paper bags." Styles and designs can be copied, but the integrity of a company and the quality built into its products cannot be imitated.

ARKELL & SMITHS · THE OLDEST NAME IN PAPER BAGS ·

A&S

CANAJOHARIE, N. Y. • WELLSBURG, W. VA • MOBILE, ALA.

at Phoenix, to sales manager at Los Angeles, succeeded by **L. P. Sempek**, who moves from Los Angeles. **S. T. Newton**, former salesmen in Tennessee, Kentucky and Alabama to sales manager Memphis plant.

* * *

Leroy Donald has been promoted to the newly created position of sales manager for the Chemical Division of **Lion Oil Company**, according to announcement by A. Frank Reed, Vice-president in charge of sales. Donald has been with Lion since 1948.

* * *

Richard W. Goldthwaite was named assistant sales manager of Lion's Chemical Division. With the company since 1947, Goldthwaite has been western sales manager since February 1951.

* * *

George C. Cook, manager of Lion's sales analyst department, has assumed added duties of administrative assistant to the vice-president in chemical sales.

* * *

Ralph W. Bailey has retired as president and director of **Stillwell & Gladding**, analytical and consulting chemists, New York, due to ill health. **Harry W. Dippel**, 30 years with the concern and vice-president, succeeds him. Mr. Dippel will continue as laboratory director. **Jane Lee Hamoson** will continue as treasurer and office manager.

* * *

Fred A. Manske, vice president in charge of production for **National Gypsum** has been made a director, succeeding **Edwin F. Guth**, resigned. Mr. Manske has been with them since 1934. The company has announced that **William H. Pulley** will head a new Southeastern sales division, covering Charlotte and Atlanta districts. Mr. Pulley, who has headed Atlanta for 17 years, will continue in charge there and supervise Charlotte, which will be headed by **James E. Kirkman**, former assistant Atlanta district manager.

* * *

Ben S. Smith, Jr., has been named Director of Industrial Relations for **Lion Oil Company**. **T. M. Martin**, company President, has announced. He replaces **John W. B. Foringer** who has resigned.

* * *

Ralph S. Waltz has been appointed manager of the agricultural department of **Wilson & Geo. Meyer & Co.**, San Francisco, succeeding **George P. Bloxham**, who recently resigned after 23 years as sales vice-president.

* * *

Dr. Kenneth E. Maxwell, well known West Coast entomologist, has returned to California to be manager of the insecticide department of **Agriform Company, Inc.**, Santa Ana. His duties include management of the plants in the Imperial Valley, Coachella Valley, San Joaquin, Wasco and in Imperial County, with headquarters at Santa Ana.

* * *

H. G. Cunningham of the **Tennessee Corporation**, Atlanta, has been appointed to the sulfuric acid unit of the chemicals division of **NPA** and has already moved to Washington.

* * *

Dr. R. K. Voorhees has been appointed horticulturist for **Wilson and Toomer**, Jacksonville, succeeding the late **Dr. B. R. Fudge**.

* * *

Robert G. Miller has joined **Naco Fertilizer** as soil analyst in the Fort Pierce, Florida, office.

* * *

H. J. Kreher has been made assistant manager in charge of the pig iron and coal chemical products of **Inland Steel** Company, Chicago.

* * *

Donald A. Williams is now in charge of operations as assistant chief of the **USDA** soil conservation service.

* * *

S. T. Keel has been appointed domestic sales manager of the Phosphate Division of **International Minerals & Chemical** Corporation, according to **Franklin Farley**, vice president in charge of the division. His headquarters will be in the Chicago offices of the corporation. He has been manager of the Southern district of the phosphate sales department for the past four years and has been with International over 10 years.

R. H. Linderman, who has been northern district sales manager, has been transferred to Atlanta, Ga., as sales manager of the southern district.

Solvay Expands Chlorine Production by $10,000,000

The Solvay Process Division, Allied Chemical & Dye Corporation, announced today that it will shortly commence construction of a new mercury cell chlorine-caustic soda unit at its plant near Syracuse, New York. The new plant will involve an expenditure in the order of $10,000,000 and will about double capacity of Solvay's chlorine-producing facilities at Syracuse. It is estimated that 18 months to two years may be required to complete the project.

Different Processes Used

Solvay produces chlorine at its Baton Rouge, Louisiana; Huntsville, Alabama; and Hopewell, Virginia, plants as well as at Syracuse. The Hopewell, Virginia, plant uses salt and nitric acid as raw materials with sodium nitrate as a co-product and nitrosyl chloride as a by-product. At Solvay's other plants, chlorine and caustic soda are produced by electrolysis of salt brine. Just recently Solvay announced expansion of its Hopewell, Virginia, chlorine plant, in which a new chemical process developed by Solvay research will be employed. Under this process the nitrosyl chloride produced as a by-product in the existing chroline plant at that location will be reacted with oxygen to produce chlorine and nitrogen tetroxide. The latter product will then be used to make additional nitric acid.

Around the Map

Hammond Bag and Paper Company has begun construction of this new multiwall bag plant at Pine Bluff Arkansas. It will replace the present Pine Bluff facilities, will cost $300,000 and is expected to be ready September 1. Allen E. Weaver is Pine Bluff manager, with J. E. McDonald as superintendent.

ARKANSAS

International Minerals & Chemical Corporation's Texarkana plant has completed construction of a plant food mixing building, two buildings for bulk storage of superphosphate, a warehouse for bags and a locker building, according to **Maurice H. Lockwood.** The mixing building replaces the one destroyed last year by fire. A shop a tractor garage remain to be completed. All told, the development will increase capacity of that plant by 50 percent.

The mixing building is 160 feet wide by 320 feet long, with rigid steel frame construction. Structural steel, roofs and siding were fabricated and erected by **Mosher Steel,** Dallas. The overhead conveyor system is from **Atlanta Utility Company,** Atlanta. **R. D. Cole,** Newnam, Ga., furnished processing equipment. Tractors supplement to conveyor in materials handling.

The Texarkana plant, in addition to the new buildings, includes a superphosphate plant, a finished goods warehouse, anhydrous ammonia storage and an office building.

CALIFORNIA

Wilson Meyer Co., headed by **Wilson Meyer** who is also president of 100-year old San Francisco firm of **Wilson & Geo. Meyer & Co.,** has been formed to handle West Coast distribution of **Tennessee Eastman Company's** industrial chemicals, including those for insecticides, and the fertilizer industry. Head offices will be at 333 Montgomery Street, San Francisco, with division offices in Seattle, Portland, Los Angeles.

FLORIDA

International Mineral and Chemical's Peace Valley mine is not so peaceful. A dam recently broke, permitting sludge to enter the river, and local citizens are up in arms about the damage to fish. The Peace River was recently restocked.

* * *

Florida Favorite Fertilizer Co., Lakeland, has been authorized to undertake commercial construction valued at $22,000. It will consist of a storage warehouse.

GEORGIA

Southern States Phosphate and Fertilizer and **Southern Fertilizer and Chemical,** Savannah, are both included in a color motion picture of Georgia being filmed by the Georgia State Chamber of Commerce.

ILLINOIS

Livingston Stone Co., Pontiac, is undertaking a $100,000 development program at the quarry, to provide finer grinding of limestone for agricultural purposes. Equipment includes a washer, a drier, a 140 ton bin, a **Stedman** mill, bagging and other new facilities. Only a few feet of soil need be stripped to expose limestone in this area. **D. J. Moran** heads the Livingston concern.

* * *

Illinois Anhydrous Ammonia Co., Farmer City, has begun construction of a battery of three 30,000 gallon tanks at McLean. Main offices remain at Farmer City. As soon as tanks are available, another installation will be made at Homer, which will bring to 330,000 gallons the concern's total storage capacity. **Phillips Chemical** are the source of supply.

KANSAS

Spencer Chemical Co. expected by this month to complete the world's largest prilling plant at Pittsburg. We have had no word as to delays occasioned by flood conditions in that region. The plant, when complete, will have a daily capacity of 1000 tons.

LOUISIANA

Commercial Solvents has been granted a certificiate of necessity to build added capacity amounting to $20,458.00 to its ammonia and methanol facilities at Sterlington, President **J. Albert Woods** reports. The construction will begin at once, and will double those products, and will add an ammonium nitrate unit. The project is due to be completed by the end of next year.

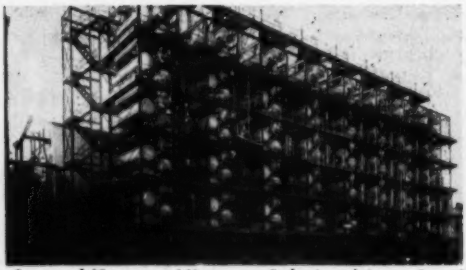
* * *

Consolidated Chemical Industries Inc., will construct a new $500,000 sulphur recovery plant at Baton Rouge, which is designed to produce 60,000 daily pounds.

Mills Money-Maker is a well known brand of fertilizer with farmers of Southeastern Georgia. Their loyal purchases of 3-M Brand made possible this modern fertilizer plant built at Sylvania in 1949.

Efficiently operated by J. P. Evans, David W. Reed and H. A. Williams, Jr., this plant has a daily capacity of 300 tons. And like so many leading fertilizer mixers, Mills Money-Maker uses Spensol.

Mills Money-Maker 3M ...Another Spensol User



Spensol (Spencer Nitrogen Solutions) is produced in large quantities at plants in Pittsburg, Kansas, and Charlestown, Indiana. More mixers every year are using Spensol because of its reputation for producing low-cost, well-conditioned fertilizers.

Feel free to call on Spencer's Technical Services Department — whether you use Spensol or not. Spencer's team of technical men will be happy to visit your plant and help you step up production while you improve your quality.

SPENSOL®
made and sold only by
SPENCER

Spencer Chemical Company, Dwight Bldg., Kansas City 6, Mo.
Southeastern District Sales Office: 412 Candler Bldg., Atlanta, Ga.
Works: Pittsburg, Kansas • Henderson, Ky. • Charleston, Ind. • Chicago, Ill.

MARYLAND

Davison Chemical, Baltimore, is duly proud of the 22 safety awards which have been made to its plants during the past year, most of which have been reported here at the time of the award.

NEW YORK

International Minerals & Chemical stockholders have approved expansion of shares by 500,000 at $5 par value, and to issue in connection with the acquisition of **Innis, Speiden & Co.** 76,648 shares of unissued common stock. In a statement to the stockholders, President **Louis Ware** pointed out that the Innis, Speiden move was a natural basis for entry into the production of more fine potash chemicals.

"The need for plant food is a basic, growing need in American agriculture" he said. The corporation is taking steps to keep pace with the growing demand. Construction has been completed on new buildings at the Plant Food Division's plant at Texarkana, Arkansas, and the plant is running at capacity levels. The Division's new chemical fertilizer plant at Fort Worth, Texas, is expected to be in operation in September of this year. A new sulphuric acid plant at Mason City, Iowa, has been completed and is in operation to furnish this important chemical, which is vital to our operations and is in short supply.

"The Phosphate Division's new office building at Bartow, Florida, is expected to be ready for use by late August and construction is under way on the new phosphate chemical plant near Bartow which will produce defluorinated phosphate for animal feed, multiple superphosphate for the plant food industry, and is also expected to produce uranium as a by-product.

* * *

The Dold Feed Co., Inc., Buffalo, has been bought by **Greutker, Inc.,** also of Buffalo. **Jackson H. Bowling** has been named president of Dold and **Frank G. Greutker, Jr.,** has become secretary. Both are Greutker officers.

Group picture made at Spencer Chemical Company's Southeastern District Office's official Open House on July 16th. Joe Culpepper, Gen. Sales Mgr., Kenneth A. Spencer, President, J. R. Riley, Jr., Vice Pres. in charge sales, John P. Miller, Vice Pres., and Treasurer. Seated, John Sanders, Southeastern District Manager. Invitations were issued to industry members to attend the opening and in the evening a stag cocktail party and dinner were held at the Ansley Hotel. Officials from the home office in Kansas City attended the opening.

NORTH CAROLINA

Salesmen, plant managers and executives of the **Naco Fertilizer Company** converged on the Highlands Country club, famous Blue Ridge resort at Highlands, N. C., on June 24, for the first annual sales conference of the company.

Distinguished agricultural speakers at the three-day meeting, included **Dr. R. A. F. Camp,** vice-director in charge of the Florida Citrus Experiment station; **Dr. M. D. Farrar,** head of the department of Ethnology and Zoology at Clemson Agricultural College; **H. S. Dobson,** agronomy extension specialist at North Carolina State College; and **Frank Wilson,** director of laboratory at the Stagson Research Corporation.

OHIO

Smith Agricultural Chemical Co., Columbus, recently celebrated its 80th birthday. Three Smith brothers wondered back in the 1890's what was wrong with the land they helped work on their father's farm. They were **Emery J., William Abbott** and **Marshall A.** Visits to nearby farms convinced them the fertilizer was the answer, and dreamed of building a plant to make it, all their own. In 1894 they made this dream come true—first calling it Ohion Farmer's Fertilizer Co., then to the present style. Today they have plants in Indianapolis, Saginaw, Holland Michigan and Carey Ohio, and the third generation of Smiths is active in the business.

TENNESSEE

Tennessee Farm Cooperative will build at Knoxville its second plant on a 20-acre site which has been purchased.

VIRGINIA

Solvay Process Division of **Allied Chemical and Dye** is operating pilot plant facilities at Hopewell which cost $350,000, and is heralded as an important expansion of their fertilizer research program.

New Research Center For Calment, Hecla

Calumet and Hecla Consolidated Copper Company, one of America's oldest copper mining companies, has recently consolidated its research activities for the Calumet Division in a newly modernized building located at 1132 Calumet Avenue, Calumet, Michigan.

The new Research Center provides modern offices, library, metallurgical and chemical laboratories for the expanded staff required to meet the challenge of perpetuating Michigan's copper industry. Calumet and Hecla's diversification program has brought a number of new activities into the sphere of the Company's operations, and further contributions are anticipated in the fields of chemistry, metallurgy, agricultural chemicals, and new product development.

George L. Craig, Director of Research and Development since 1944, will continue to manage the Company's research program.

PROGRAM ON FERTILIZER TECHNOLOGY

Arranged by the Fertilizer Committee of the Soil Science Society of America, Pennsylvania State College, State College, Pa. August 27, 1951

Presiding: K. D. Jacob, USDA

9:30 a.m. Developments in World Fertilizer Production. G. J. Callister. FAO,UN.

10:20 a.m. Nitric Acid in the Fertilizer Industry. E. D. Crittenden. Nitrogen Section, The Solvay Process Division, Allied Chemical & Dye Corporation.

11:10 a.m. Chemistry and Technology of Ammoniated Superphosphate. J. C. Sharpe, Spencer Chemical Company.

12:00 noon Lunch

Presiding: W. L. Nelson, North Carolina AES

1:30 p.m. Resources, Production, and Consumption of Sulfur in the United States. G. W. Josephson. Bureau of Mines

2:20 p.m. Particle Size—Plant Nutrient Relationships in Phosphate Fertilizers. W. L. Hill. USDA

3:10 p.m. Physical Condition in Mixed Fertilizers. Ritchie Taylor. The Davison Chemical Corporation.

DAVIDSON-KENNEDY CO.

Is now manufacturing a complete line of fertilizer equipment in addition to their well established oil mill machinery business.

Cluster Hoppers
Foot Breakers
Elevating & Conveying Equipment
Head Breakers
Double Deck Shaker Screens
Automatic Ammonia Weighing Systems
Pulverizers
Batch Mixers

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INDEPENDENCE makes KRAFT BAGS DEPENDABLE

KRAFT BAG CORPORATION
GILMAN PAPER COMPANY SUBSIDIARY
630 Fifth Avenue, New York 20, N.Y.
Daily News Bldg., Chicago 6, Ill.
made-to-order heavy-duty multi-wall shipping sacks
2 to 6 ply... printed or plain
KRAFT BAG CORPORATION

Plants at St. Marys, Georgia and Gilman, Vermont

Our total independence from outside sources for pulp and paper and other bag components ensures for KRAFT BAG users the consistent high quality and year-in-year-out dependability they require.

Wholly-owned integrated plants make the kraft paper, the crepe kraft, the kraft tape, the crepe sleeves and L.C. sleeves . . . prepare adhesives . . . make printing plates . . . print on our own modern presses.

Every step of manufacture is marked by quality-control methods to keep the quality up — come what may!

That is why YOU can depend on KRAFT BAGS!

gilman PAPER CO.
• St. Marys Kraft Corp.
• Gummed Tape Div.
• The Coltwood Corp.
• Kraft Bag Corp.

Send your product to market in a "KRAFT BAG" — the container for a 1000 uses!

STEDMAN FERTILIZER PLANT EQUIPMENT

S

DEPENDABLE FOR MORE THAN 60 YEARS

All Steel Self-Contained Fertilizer Mixing and Bagging Units

Batch Mixers — Dry Batching

Pan Mixers — Wet Mixing

Tailings Pulverizers — Swing Hammer and Cage Type

Vibrating Screens

Dust Weigh Hoppers

Acid Weigh Scales

STEDMAN FOUNDRY & MACHINE COMPANY, INC.

Subsidiary of United Engineering and Foundry Company

General Office & Works: AURORA, INDIANA

MENTE BAGS

Burlap and Cotton
New and Used
Printed and Plain

SUPERIOR QUALITY
RELIABLE SERVICE

For Latest Quotations

Write **Wire** **Phone**

TODAY

Dept. B1

MENTE & CO., INC.

Isaac T. Rhea, Pres.

Savannah • New Orleans • Houston

TEXTILE BAG SPECIALISTS SINCE 1885

Tax Tag Sales Up

Reports from 11 States show a slight upturn in the sales of fertilizer tax tags and reports of shipments during May, 1951, compared to the same month a year ago, according to The National Fertilizer Association. Tax tags representing 812,057 tons of fertilizer were sold last month as against 760,909 tons during May, 1950.

Tag sales in the Southeastern States showed a slight drop, while sales in the 3 Midwestern States jumped 40 percent from 129,176 tons in May 1950, to 181,450 tons last month.

Fiscal year sales from July 1950, through April 1951, were about 990,000 tons greater than during the comparable period of a year ago.

FERTILIZER TAX TAG SALES AND REPORTED SHIPMENTS[1]

(In Equivalent Short Tons)

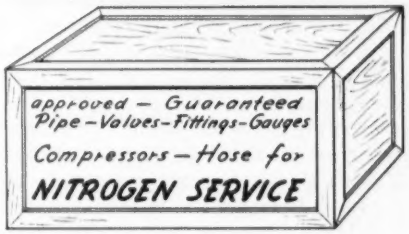
Compiled by The National Fertilizer Association

	May		January-April		July-April	
STATE	1951	1950	1951	1950	1950-51	1949-50
N. Carolina	1/	1/	1,233,206	1,204,423	1,624,491	1,461,994
S. Carolina	31,740	44,791	638,539	648,426	946,750	848,570
Georgia	101,969	55,592	887,438	884,895	1,166,891	1,102,108
Florida	111,638	95,459	467,479	420,120	994,699	888,749
Alabama	146,374	176,317	606,456	576,972	833,470	742,489
Tennessee	83,893	106,499	226,151	204,894	345,669	305,937
Arkansas	81,448	80,942	234,135	179,680	310,068	247,098
Louisiana	25,490	28,011	196,055	165,544	270,282	221,988
Texas	48,055	44,122	274,873	263,292	530,982	478,941
Oklahoma	1/	1/	75,566	75,767	131,174	130,285
TOTAL SOUTH	630,607	631,733	4,839,898	4,624,013	7,154,476	6,428,159
Indiana	50,455	65,145	364,670	371,874	860,834	777,293
Kentucky	48,389	42,720	287,026	346,377	494,789	512,424
Missouri	82,606	21,311	373,696	271,122	636,876	439,106
TOTAL MIDWEST	181,450	129,176	1,025,392	989,373	1,992,499	1,728,823
GRAND TOTAL	812,057	760,909	5,865,290	5,613,386	9,146,975	8,156,982

1/ Oklahoma and North Carolina report tax tag sales 30 days after the end of the current month. Oklahoma and North Carolina tag sales for April 1951 represent 18,082 and 300,582 tons respectively, compared to 15,477 and 293,726 tons during April 1950.

Approved Piping Equipment for NITROGEN SOLUTIONS

Handling Nitrogen Solution, even under pressure, is an easy job for pipe, valves, fittings and other accessories that are designed for this corrosive job. Aluminum piping with "quick opening" valves designed to carry Nitrogen Solution, insure a trouble-free piping system that will carry this solution from the tank-car to your storage tank, and then to your mixer. Air hose, pipe and an adequate compressor to give the pressure you need for quick, efficient operation must be free from any copper or copper alloy connections, brazing, or welding.



A piping layout using these materials, is approved by all the major producers of this chemical. These materials are available from one source. Ask your Solution Representative, and write for free bulletin showing a detailed piping layout and complete "bill of materials".

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Atlanta 3, Georgia

CAA, USDA, the Flying Farmers, a number of plane manufacturers, all have collaborated to produce this, the first plane built especially for agricultural use. It has many safety features, carries heavy loads. Texas A & M College actually built it, and CAA will turn over specifications to any manufacturer who wants to build it, or adopt any of its features.

CPR—22

(Continued from page 19)

with superphosphate and cotton bags."

Q. "What about categories? These are not explained fully enough so that fertilizer men can be sure about this phase of the pricing program."

A. "The most common categories are these: Mixed goods, separate materials, and mixtures consisting of only two materials such as 0-20-20. Some fertilizer manufacturers will use method 3—best selling fertilizer grade—for computing materials cost increases for their whole line. This is O. K. but the cost increase factor figured on an NPK mixture should not be used to price a P-K mixture if this method is used. A separate category must be established for mixtures containing only two materials."

Q. "Some of our people are not able to complete Form No. 8 in strict accordance with the regulation. What can be done in cases like these?"

A. "If they find it impossible to 'hew to the line' it will help greatly if they will point out the differences in the letter of transmittal that they send with their copies of Form 8."

N. W. CONFERENCE

(Continued from page 21)

ture, and it will likely continue for several years. Work is being done for further recovery of sulphur gases from smelter fumes, and recovery of sulphur from sour natural gases. Steps are being taken, meanwhile, to conserve sulphur.

Crumpler said that among immediate steps which could be taken are: substitute synthetic miticides for dusting sulphur; and substitute alternative materials such as gypsum or low-grade sulphur for the refined product in soil amendments. The U. S. department of agriculture is sponsoring a program for production of nitrogen-phosphate fertilizers using a process that requires no sulphuric acid.

Before adjournment, Fitzpatrick announced that the Northwest Plant Food association's annual convention would be held in October with the site still to be selected. It most likely will be held in Portland, Oregon, he intimated. Another summer meeting will be held in 1952 under the auspices of the association's soil improvement committee. Pocatello, Idaho, will be the site.

OREGON

(Continued from page 25)

Project farmers let the plants wilt down two or three times during the growing season, then just as the plant is about to turn brown and die they revive it with strategic irrigation and fertilizer. This procedure causes the plant to produce a maximum of seed. Finally, with almost complete control over the moisture content, farmers are able to cause the plants to dry up and turn brown just in time for the harvest.

This operation also calls for careful fertilizing in the spring of the year. For the most part this consists of applying a half-sulfur-half-gypsum mixture at the rate of about 100 pounds to the acre. The gypsum becomes quickly available for the growing crop while the sulfur comes along later and rounds out the availability for the season.

Potato production, second crop in the area, requires an even heavier use of fertilizers. For this crop, farmers are using an average of around 200 pounds of sulfate of ammonia and 500 pounds of 10-16-8 per acre. Many growers are doubling this amount with excellent results. Completely disease free, "Deschutes" potatoes command a

premium price on the market.

One of the major reasons why clover seed, potatoes and other crops grown in the North Unit area bring high prices on the market is the almost complete lack of weeds and diseases. Because of the almost desert-like character of the land before the coming of irrigation, there are virtually no noxious weeds. To keep the area that way, farmers have taken another forward looking step by establishing a weed control district.

In operation for the first time this spring, the district has undertaken the task of spraying and burning all noxious weeds along roadsides and irrigation ditches. Special precautions also are being taken to see that nothing but certified seed is brought into the area and constant vigilance is kept to detect the first signs of diseases or weeds.

Focal point of the area's operations naturally is the county agent's office. Now run by Paul Barnes, a young, energetic college graduate, the office enjoys the confidence and support of almost all the farmers. Barnes, who grew up on an irrigated farm in Idaho and who has specialized in seed production, seems to fit the exact prescription recommended for the county. His advice and assistance is constantly sought and his recommendations have almost the weight of laws.

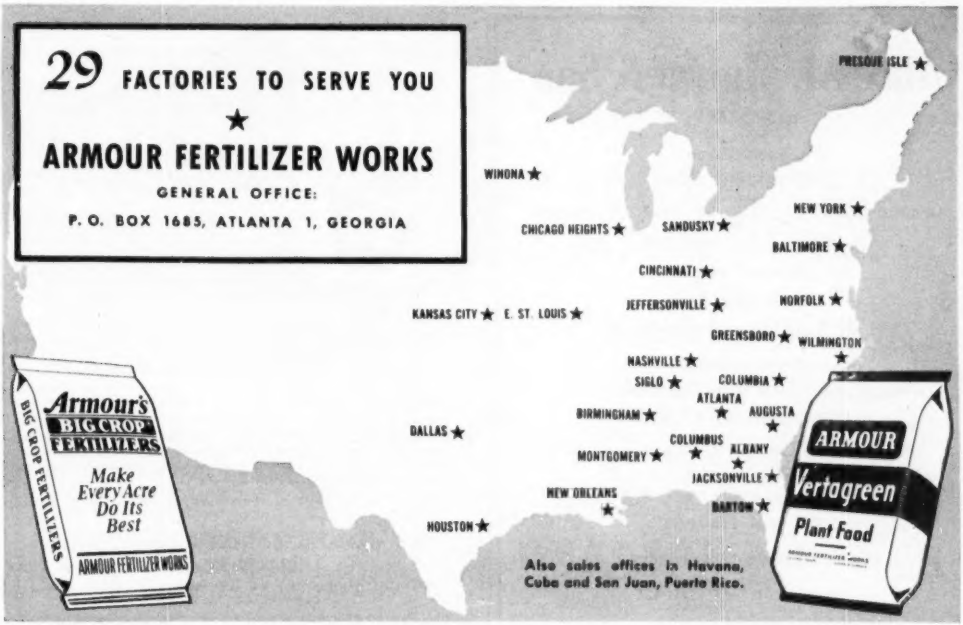
All in all, the Jefferson county of today is a far cry from the heartbreak land of a scant 15 years ago. And farmers watching the carloads of clover seed, potatoes, and other crops moving out have come to realize the relationship they bear to the carloads of fertilizer moving in.

CONTROL OFFICIALS ACT

(Continued from page 40)

pesticides is generally based on the economics of the practice and that the danger of contaminating crops or soils or both by misapplication, by inappropriate levels and methods of application is real and does not warrant the savings in labor costs.

"3. Mixtures of pesticides and fertilizers which are registered for sale should be properly labeled and meet all requirements of both the fertilizer and pesticide laws of the various States."



GEORGIA

(Continued from page 41)

W. L. Baughcum, IM&C, East Point; J. M. Shepherd, VCC, Atlanta; J. E. Nunnally, Cotton Producers Coop., Atlanta; W. E. Morgan, Dealer, Buchanan.

Each group asked that Mr. E. D. Alexander, Extension Agronomist, Agricultural Extension Service, be made chairman of the Advisory Committee to assist the Organizational Committee in perfecting the Plant Food Society in Georgia somewhat along the lines of the one in South Carolina. Its objective would be to foster and promote the dissemination of useful and practical information regarding all forms of plant food. Its purpose would be to operate in the state as an agricultural service, keeping its members informed, promoting agricultural programs, and cooperating with all agricultural agencies, especially the State Agricultural College and its branches, in promoting better use of plant food in Georgia. Most of the active members would be members of the fertilizer industry in this state, and the associate members would be persons connected with the state and federal agricultural services.

The future of the proposed organization will depend upon the activities of Mr. Alexander and the committee listed above.

Five-Color Press At Arkell & Smiths

The installation of a new five-color press at the Canajoharie, N. Y. plant marks the completion of a $500,000 expansion program by Arkell & Smiths, specialty and multiwall bag manufacturers.

During the last nine months, increased printing capacity has been added to each plant. The multiwall plants at Mobile, Ala., Wellsburg, W. Va. and Canajoharie can print bags in from one to four colors and the specialty bag plant at Canajoharie, formerly limited to four colors, can now print up to five colors.

Additional specialty bag making equipment has been installed at the Canajoharie plant and another new bag machine for five and ten pound sugar or salt bags is being put into operation at the Mobile plant.

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NFA Seal Available

NFA's seal, a picture of a tractor-applicator, a bag labeled N-P-K, A circle which reads "Promoting Progress with Fertilizers," a US map on which is inscribed "More Profit from Every Acre" and a scroll at the bottom reading "Member of the National Fertilizer Association," is now available to members for reproduction on letterheads.

Davidson Commission Moves Offices

The Davidson Commission Co. have moved their offices to Suite 4150 Board of Trade Building, 141 West Jackson Boulevard, Chicago 4, Illinois.

Southwide Chemical Conference Oct. 18-20

A chemical conference will be held at Wilson Dam, Alabama, October 18-20 under the auspices of the American Chemical Society and the Southern Association of Science and Industry. Division represented will be organic, analytical, industrial, physical an inorganic chemistry. There will be a symposium on industrial wastes. Inquires should be directed to Damon V. Royce, Chairman ACS, TVA Laboratories, Wilson Dam, Alabama, or to H. M. Conway, Jr., Director SASI, 5009 Peachtree Road, Atlanta, Georgia.

Bemis Participates In Exchange Program

To encourage an exchange of information between our nation's teachers and businessmen, the Bemis Bro. Bag Co., St. Louis, is again sponsoring two Fellows in the College-Business Exchange Program of the Foundation for Economic Education.

Dr. M. T. Buchanan, Director of the Institute of Agricultural Sciences of the State College of Washington, and Dr. T. E. Kyllonen, Assistant Professor of Sociology, University of Missouri, will spend six weeks in Bemis' general offices and three manufacturing plants in St. Louis to acquaint themselves with the day-to-day operations of a typical American business.

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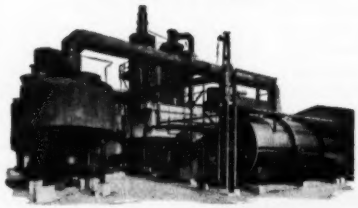

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This program recognizes the lack of on-the-job experience of teachers who move from their technical academic training into the teaching profession and endeavors to show them particularly economists, the methods and techniques of the American business world by actual observation. Thus, the students of these participating Fellows are introduced to the realities of business operations through the experience of observers.

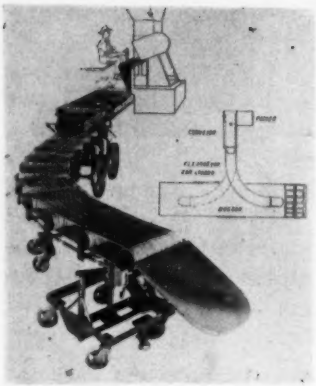
Canadian Phosphate Mines Help Educate Business Men

With the idea of making the average business and professional man more aware of the need to feed the soil regularly, and to give the public a true picture of the production and processing of phosphate rock, Industrial Phosphate Mines Ltd., Toronto, Canada has purchased a brochure entitled "A short story about Phosphate . . . a key mineral."

Culture Lags Behind Harvesting

Satisfactory weed control was named by research engineers of the U. S. Cotton Field Station, Shafter, Calif., as the biggest drawback to complete mechanization of cotton production in that State's high producing San Joaquin Valley.

Speaking before the annual meeting of the American Society of Agricultural Engineers in Houston June 18, J. R. Tavernetti, California Agricultural Experiment Station, and B. B. Ewing, U. S. Department of Agriculture, said that the rapid expansion of use of mechanical pickers to harvest cotton has accentuated the need of research to bring cultural practices up to the mechanical level of harvesting. They said that about half of California's estimated 1-¼ million cotton acres will be harvested with some 3,000 mechanical pickers this year.



Flexoveyer has developed this power-driven telescoping box car loader which operates beneath the bag-filling machine and takes the bags direct to the car-side. It has a capacity of 30 bags per minute, and can be varied to suit local problems and conditions. For full details, write Flexoveyor Mfg. Co., 1220 South Acoma St., Denver 10, Col.

Probability that mechanical harvesting of snapbeans will soon be here has attracted the attention of growers, processors, and breeders to the possibilities in new varieties, and lower labor costs, says the U. S. Department of Agriculture. Some canners rate snapbeans as the canning vegetable crop with highest cost for harvest labor. Work on the harvester is being done by private enterprise.

New Pennsalt Office In Kansas City

The Pennsylvania Salt Manufacturing Company have opened a district sales office in Kansas City.

The new office, which is located at 1461 Dierks Building, will be Pennsalt's central sales and service headquarters for Kansas, Missouri, Iowa and Nebraska. Heading this organization will be Cecil B. Roberts as District Sales Manager.

OBITUARIES

Flourney C. Johnson, 82, who retired in 1940 as general superintendent of the Armour Fertilizer plant in New Orleans, died July 2 at Ocean Springs, Mississippi.

Charles Nash Reid, 65, former manager of the W. R. Grace nitrate operations, and later owner of his own fertilizer concern, died July 7 at Mount Kisco, New York.

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Sulphur

FROM THE HEAVENS OR FROM THE BAG?

Back in March we had a memorandum from a correspondent which went like this:

"O. H. Long, University of Tennessee Experiment Station specialist explained experiments on fertilizer conducted in Tennessee. He stated results showed that the fused phosphate fertilizer compared favorably with triple superphosphate. With 20 per cent super phosphate fertilizer likely to be scarce due to lack of sulphuric acid required in its manufacture, Long recommended use of fused phosphate fertilizer instead.

He also explained experiments have shown that although large amounts of sulphur are used by plants, there is no need for extra amounts of this element in fertilizers. The annual rainfall brings down this supply, he said."

We wrote Malcolm McVicker, NFA's chief agronomist, quoted this memorandum, and asked his comments, especially on the last sentence about the rainfall.

Mac wrote us as follows:

"To the best of my knowledge, the availability of fused phosphate is dependent largely on its fineness. Agronomically, it has not come up to superphosphate in efficiency when tested under a wide range of conditions. Normally, under alkaline conditions, it has proved itself very inferior to the water-soluble or citrate-soluble phosphates.

"If it were used in mixed fertilizers, certainly there would have to be some change in the AOAC method, since the phosphate in fused phosphate is in an insoluble form.

"Whether or not sulfur needs to be added to the soil depends on the area. Certainly in areas where there are few industrial plants, the amount returned to the soil through rainfall is inadequate to take care of the crops needs. Legumes are particularly heavy users of sulfur. For example: A 4-ton crop of alfalfa removes 29 pounds of sulfur; and 100 bushels of corn contain about 22 pounds of this element.

"Frankly, it is my opinion that a great part of the country is on the threshold of a sulfur deficiency, particularly West of the Mississippi River.

"I am writing Howard Rogers at TVA to get more information on fused phosphate and I will write you again soon as I hear from him."

Then we heard again from Mac, quoting a letter he had from Howard Rogers, who is chief of the soils and fertilizer research branch of TVA's division of agricultural relations. And Howard said this:

"It is always difficult to make generalized statements about fertilizers since we recognize the fact that soil conditions and crop requirements are important factors in determining the suitability of different phosphates.

"With reference to the summary on fused tricalcium phosphate, however, I think one could conclude that this material when used on the acid soils of the Southeast for pastures and other forage crops, is approximately as effective as concentrated superphosphate as a source of phosphorus. This less soluble phosphate is somewhat slower in availability, and for this reason it is recommended that this material be applied somewhat in advance of seeding these crops. Although the residual effects of fused tricalcium phosphate have not been evaluated, the indications are that this phosphate is fully as available on subsequent crops as the more soluble phosphates.

"The limited test which have

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been conducted on the calcareous soils of the West, however, indicate that fused tricalcium phosphate is not suited to those conditions. Although this phosphate has been somewhat more erratic in tests with some of the row crops on the acid soils of the Southeast, it is believed that when more information is available on time and method of application this product will have distinct commercial possibilities for these crops.

"As to particle size recommended for fused tricalcium phosphate, we are trying to standardize the output of the experimental plant at Godwin, Tennessee, on a product of approximately 40-mesh fineness. Rather extensive experimental work indicates that material coarser than about 40-mesh is too slowly available. On the other hand, there does not appear to be much evidence that finer material than that obtained by grinding to pass a 40-mesh screen is needed for maximum response by most field crops."

And that's where the correspondence stands at the moment. It seems to us here at Commercial Fertilizer Magazine that there is room for quite a bit of discussion on this whole subject. Who would like to join the fray?

Swift Grants Total $160,000

Grants-in-aid for the current year totaling $160,000 for the support of long and short term scientific studies in agriculture and human nutrition have been announced by Dr. Roy C. Newton, vice president in charge of research at Swift & Company.

Dr. Newton said findings from the research is placed entirely in the hands of the universities and colleges and published results are available to all research workers.

THE SOUTHWEST

Two papers on a swiftly Growing region of the US

Summary of paper by A. L. BURWELL, industrial chemist for the Oklahoma Geological Survey, Norman, Okla., presented before the Division of Industrial and Engineering Chemistry at the 119th national meeting of the American Chemical Society.

The vast raw material reserves of the Southwest guarantee the region's continued growth as a chemical center, A. L. Burwell, industrialist chemist for the Oklahoma Geological Survey, Norman, Okla., told the American Chemical Society at its 119th national meeting.

Pointing out that the "giants" of chemical industry for some time have been building new plants and expanding existing facilities in the so-called West South Central Census Area—Arkansas, Louisiana, Oklahoma, and Texas—Mr. Burwell said that among the several factors responsible for this trend the raw material supply is by far the most important.

The Southwest produces 63 per cent of the nation's crude petroleum, and has proven reserves equivalent to 70 per cent of the United States total, he declared, adding:

"The situation with regard to natural gas is only slightly different. The area produced over 4,255,000 gallons of natural gas liquids during the past year, representing nearly 70 per cent of the nation's production, with proven reserves remaining equivalent to over 80 per cent of the United States total.

"To prove that the area's 'eggs are not all in one basket,' attention is directed to the 43,000,000 tons of lignite that await a demand—to the fact that this area produces close to 100 per cent of the natural sulfur—to the tremendous quantities of salt occurring in salt domes, in salt beds, and in subsurface brines—to chemical grade limestone and dolomite—to trillions of tons of gypsum—to highest quality silica deposits—to ores of aluminum, titanium, iron, magnesium, lead, zinc, barium, strontium, mercury and antimony.

"As though these materials were not sufficient, raw material from over 50,000,000 acres of commercial forests are available, together with an annual agricultural production includ-

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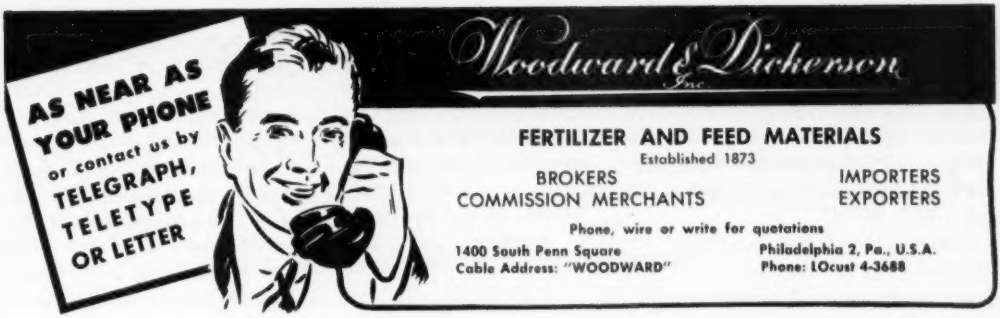

ing cotton, corn, wheat, and numerous other crops furnishing vast amounts of cellulose, fats, oils, sugars and starches.

"It is this availability of raw materials that explains why the chemical industry continues its trend into the Southwest."

Summary of paper by DR. FRANK W. JESSEN, consulting engineer of the Austin (Texas) Area Economic Development Foundation, presented before the Division of Industrial and Engineering Chemistry at the 119th national meeting of the American Chemical Society in the Public Auditorium, Cleveland, on Tuesday, April 10, 1951, at 9:20 a.m.

The Chemical industry in the Southwest, although still relatively new, has topped the billion-dollar mark in annual sales and now ranks third in value among the great industries of the region, the American Chemical Society was informed at its 119th national meeting.

Abundant raw materials, tremendous reserves of cheap fuel, and many other factors combine, moreover, to assure a future growth of the industry "which should far outstrip anything accomplished to date," Dr. Frank W. Jessen, consulting engineer of the Austin (Texas) Area Economic Development Foundation declared.

Only the petroleum-natural gas industry and agriculture now exceed chemicals in sales volume, Dr. Jessen reported, and in the years ahead the chemical industry "may be expected to be a very strong contender to petroleum and natural gas." He spoke on the "Southwest Chemical Industry—1950" at a symposium on resources for the industry in Arkansas, Louisiana, Oklahoma, and Texas.

Excellent transportation facilities; adequate, high-quality labor, and rapidly expanding markets are among the assets of the Southwest which make the chemical industry's future in the area particularly bright, according to Dr. Jessen, who is a chemical engineer.

"In the few years since World War I the Gulf Coast region, extending from Brownsville (Texas) to New Orleans, has seen a greater rate of expansion in the Chemical field than any other area throughout the nation," he pointed out. "Approxi-

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WRITE TODAY

113 W. WALNUT ST. GREEN BAY, WIS.

mately 500 million dollars have been spent in this area alone on additions to existing plants and for the installation of new plants. This sum, added to that invested in plants during the 1939-49 period, represents a total investment of more than one billion dollars."

Already, Dr. Jessen continued, the young industry has "taken a commanding position among other, older established industries such as agriculture, oil and natural gas, lumbering, cattle, and transportation."

"Despite the industrialization of the past several years," he explained, "the Southwest still is an area in which the extraction of basic minerals and the production of agricultural products is the main source of income. Petroleum and natural gas, sulfur, potash, salt and other mineral products, as well as crops of cotton, wheat, sorghum, rice, citrus and so forth, represent the basis of the economy. That the chemical industry is rapidly becoming a major factor is recognized in that the total sales of products from chemical plants now amounts to well over one billion dollars annually."

Aside from chemicals derived from petroleum and natural gas, the speaker noted, antimony, potash, sulfur, sulfuric acid, aluminum, ammonia, and magnesium and bromine from the sea are produced in the Southwest, and the Longhorn Tin Smelter is the country's only tin-producing plant. Synthetic glycerine, synthetic rubber, cotton seed oil, and steel and attending by-products also are listed as important products.

Increased diversification of products may be anticipated, Dr. Jessen said, citing a definite need for a much larger production of steel.

"The increasing industrialization of the area will mean that steel-consuming and processing industries in the area will require even larger tonnages than are now employed," he observed. "Utilization of low-grade ores will mean much during the next few years in filling the much-needed demand for steel in the area. Additional plant facilities will be required, and it is felt that the construction of such plants will inevitable occur."

The emergency created by the Korea conflict has directed the attention of producers of light metals such as aluminum and magnesium to the tremendous advantages offered to companies operating plants in the Southwest, he asserted, explaining:

"The availability of natural gas, petroleum and solid fuels, as well as the ease of transportation of raw materials and finished products are advantages which are difficult to find elsewhere in the nation."

Synthetic fibers, drugs, insecticides and other agricultural chemicals, and synthetic detergents are other important products which the Southwest may expect to turn out in huge quantities in the years ahead, the speaker declared.

A major attraction of the region, he added, is its climate. Plant installations need little or no shelter or enclosures, he said, and operations may be carried out throughout the year with minimum delays because of weather. Scarcity of water in some sections is one of the drawbacks, he added.

"The future of the chemical industry is the Southwest appears particularly bright," Dr. Jessen declared. "Should the experience of the past decade be a yardstick of the advances to be

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made in the future, far greater diversification will be attained.

"The development of synthetic fibers, detergents, fertilizers insecticides and fungicides, pharmaceuticals and biological chemicals, and nonmetallic mineral processing presage an era of unusual growth and progress. Manufacturing plants, processing the materials of the present plants into finished consumer goods, should be introduced in substantial numbers. The remarkable developments which have taken place in the area in such new fields as aircraft production, primary metal reduction, organic chemicals, metal fabrication and production of heavy machine goods will be followed by a growth in the years ahead which should far outstrip anything accomplished to date.

"The pioneering spirit so typical of the Southwest is indicative of the true optimism which prevails and which one encounters in analyzing the future of the chemical industry in this vast and, as yet, hardly developed region."

Institute Warns Against Directorate Curb Bill

The principle that "outside" boards of directors—i.e. those with a majority of members not connected with the firm as salaried employees or executives—are in the public interest, is violated by the provisions of the bill submitted in the Senate to prohibit multiple directorships in large corporations. Advice to this effect is being given to its members by the American Institute of Management, New York, which questions the estimate of the bill's sponsor—Sen. Hubert H. Humphrey of Minnesota—that its impact would be confined to one or more directors in about 200 manufacturing and mining corporations and 25 retail corporations.

"Government surveys show that interlocking directorates, which would be prohibited by S.1659 for companies with capital, surplus and undivided profits exceeding $1 million, are held by some 10,000 persons in 16,000 leading corporations," the Institute's report on the bill declares. "The proposed legislation would unquestionably have far wider ramifications than Senator Humphry suggests, especially considering the fact that it also prohibits anyone from being simultaneously an 'officer, director or employee in more than one corporation' which has assets in excess of $60 million, subsidaries excluded."

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POSITION WANTED: Several years in agronomic work. Interested in work for fertilizer or base materials manufacture. Write Box # 2, c/o Commercial Fertilizer, 75 Third St., N. W. Atlanta, Ga.

WANTED: Position as superintendent. 36 years old. Married. 18 years experience in the supervision of Fertilizer and Sulphuric Acid Plants. Excellent record and references. Box 81, c/o Commercial Fertilizer, 75 Third St., N. W. Atlanta, Ga.

WANTED: Experienced Plant Manager to supervise operation of 100,000-ton per year complete fertilizer plant. Applicant should be between the ages of 35 and 45. Write for additional details, giving personal data and experience. Box No. 10, c/o Commercial Fertilizer, 75 Third St. N. W., Atlanta, Georgia.

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WANTED: SALESMEN—Experienced in selling fertilizer preferred but not essential. Age, 25 to 35. Excellent opportunity with well established company for qualified men. If interested, write to Box #13, Commercial Fertilizer, giving us full details as to experience, education, etc. Box 13 c/o Commercial Fertilizer, 75 Third St., NW Atlanta, Ga.

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